CHAPTER XXVI

SYPHILIS IN OBSTETRICS

An attempt will be made in this article to present the main facts which are known of syphilis in its relation to obstetric medicine.

Our knowledge of certain parts of this subject is clear enough, but on the other hand there are certain problems of great practical importance which at present remain unsolved. It is true that answers have been given to these vexed problems, but whether they are final or not cannot yet be foretold.

If the doctrine that the *Spirochaete pallida* is the cause of syphilis and is pathognomonic of the disease, which is now widely, if not universally, held, be confirmed by more extended experiment and research, many of the problems at present unanswered, or doubtfully answered, may be capable of a final solution. At the present moment, although it will be necessary to touch on many doubtful points and bring forward clinical evidence, which up to now has been exclusively relied on as the only support of the views advanced and the theories held, it must not be forgotten that further investigations may possibly overthrow some of the most cherished beliefs which are still held, as to the nature and transmission of the disease. A more accurate knowledge of the life-history of the spirochaete may clear up some at least of the points at present in dispute, especially as regards the questions of sperm infection of the ovum and the allied problem of conceptional syphilis. If the discovery of the spirochaete modifies the prevailing views of the transmission of syphilis to the same extent that the discovery of the streptococcus modified the views both of the nature and modes of transmission of puerperal fever, much of the literature dealing with the transmission of syphilis will have to be rewritten (see vol. i, pp. 43–85).

The problems which arise in connexion with syphilis and pregnancy are highly complex. The discovery of the *Spirochaete* *pallida* as a cause of syphilis is so recent that there has as yet been but little time to restudy the question of syphilis and pregnancy by its aid, and the published observations on this branch of the subject are still scanty.

A vast amount of carefully considered clinical evidence is available, largely due to the prolonged and careful researches of Mr. Jonathan Hutchinson and Professor A. Fournier, and it is chiefly from the results obtained by such investigations that many of the conclusions which are at present accepted have been arrived at.

SYPHILIS AND PREGNANCY

It is generally held that a pregnant woman can be infected with syphilis in two different ways :—

1. By direct infection.
2. Indirectly through the foetus (conceptional syphilis).

On the question of direct infection there is no dispute. Such infection may occur in a woman, whether pregnant or otherwise, as the result of coitus with the production of a genital lesion which varies a good deal in character, or infection may take place from contact with the secretions of mucous tubercles or patches, in which case the primary sore may be on the mouth, nipple, or elsewhere.

The question whether a mother free from syphilis can be infected by her child *in utero* must still be regarded as a disputed point.

There are two separate and distinct questions involved in this dispute :—

1. Can the ovum be directly infected by the father?
2. If this is possible, can the foetus transmit the disease to the mother?

It is perhaps simpler to consider the latter point first. There seems no difficulty in believing that syphilitic infection might pass from the child to the mother through the placental tissues. During intra-uterine life a constant interchange of material is taking place from the mother to the child and from the child to the mother. It might well be supposed that the syphilitic poison could pass in the reverse current from the foetus to the mother, just as easily as undoubtedly it does pass from the mother to the child when the former is infected with syphilis during the early months of her pregnancy.

The question which has given rise to the keenest controversy is whether the ovum can be infected directly by the father ; and on this the whole theory of conceptional syphilis hangs. Unless the ovum can be thus directly infected it has not got the disease, and therefore cannot transmit it to the mother. Mr. Jonathan Hutchinson and Professor A. Fournier, who strongly support the view that not only may an ovum be infected by the father, but that the mother in turn may be infected by her offspring, teach that one of two things may happen to the woman :—

1. She may develop symptoms of secondary syphilis during her pregnancy without the occurrence of any primary sore (conceptional syphilis).

2. She may not exhibit either at that, or at any future time any symptoms of syphilis, but she is immune to infection from her own syphilitic child and may nurse it with impunity (Colles' law) (see also vol. i, p. 284).

Conceptional syphilis is said to present features very different from those of ordinary syphilis acquired by contagion. The chief difference, however, is the absence of the primary sore and the absence of enlarged glands in the groin. Headache, sore throat, loss of hair, and mucous tubercles around the anus are the most usual symptoms, though sometimes papular or pustular eruptions are met with as well.

The arguments adduced in favour of the transmission of syphilis direct from the father are :—

1. The occurrence of symptoms of secondary syphilis in a woman during her pregnancy without any sign of a primary sore.

2. The fact, as asserted by Professor Fournier,[1] that he has known antisyphilitic treatment of the husband put an end to a long series of miscarriages in a wife who herself had never had syphilis.

3. A woman who has presented no signs of syphilis may give birth to a syphilitic child.

It may be said in criticism that the primary sore in women is sometimes very small, and may appear more like an abrasion than an ulcer. All signs of it may have disappeared before the development of secondary symptoms. Further, it cannot be denied that the severity of the disease varies very greatly in women, as in truth it does in men, and that in mild cases in women, both the primary sore and the secondary symptoms seem to be sometimes entirely overlooked by the patients themselves, or else the symptoms are so slight that the remembrance of them is soon effaced from the mind, so that no history of the disease can be obtained. The absence of any definite history of syphilis in the case of women who must certainly have had the disease and acquired it by direct contagion is a matter of common knowledge and experience. Thus the woman who gives birth to a syphilitic child, and herself presents at this time no signs of the disease, may really have passed through a mild attack of syphilis given to her by her husband either previous to or during the course of her pregnancy, the symptoms of which have passed unobserved. In this way the fact that the woman is not infected by nursing her syphilitic child may be explained. Professor Fournier's statement that a wife may cease to miscarry if her husband, who has had syphilis, be treated afresh with antisyphilitic remedies, is very striking, but many further facts of a similar nature would have to be collected before coincidence could be eliminated.

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[1] 'L'Hérédité syphilitique.' A. Fournier. Paris, 1891. P. 63.

Other objections to the doctrine of paternal heredity have been put forward. The chief of these are :—

1. The manifest disproportion between the number of syphilitic husbands and the number of syphilitic children.

2. A syphilitic man may marry a healthy woman and procreate healthy children.

3. The non-inoculability of the spermatic fluid of syphilitic subjects.

Although Professor Fournier does not deny this last point, but suggests that, although it is non-contagious by inoculation, it might still be able to contaminate the ovule. Fecundation and inoculation, as he rightly points out, in no way resemble each other.

The practical importance of the existence or non-existence of conceptional syphilis is very great, as if it exists, the period of infectivity of the male both to the woman and the offspring is greatly prolonged. If there is such a thing as paternal syphilis, not merely is there a danger of begetting syphilitic children long after there is any risk of directly communicating the disease to the wife, but there is the additional danger of giving the wife syphilis indirectly through the child. The belief in this doctrine has led to prolonged delay in the marriage of men who have acquired syphilis.

It is extremely difficult, if not impossible, in the present state of our knowledge to settle this dispute, but the discovery of the spirochaete as the cause of syphilis may make it possible to do so in the future. Clinicians of large experience are for the most part averse to permitting marriage until at least three years have elapsed from the occurrence of the primary sore; until sperm infection and conceptional syphilis have been definitely proved not to exist, this rule is no doubt a wise one.

The Effects of Pregnancy on Syphilis

If a woman has a genital chancre at the time of conception, or develops one during the early months of pregnancy, its course is often protracted and the ulceration may be deeper and more extensive than usual. Secondary lesions in the neighbourhood of the vulva and anus are also apt to be aggravated. Mucous tubercles may attain a large size, or they may ulcerate or even become phagedaenic. Such changes are, however, by no means invariable, and in mild cases of syphilis the disease may run its ordinary course practically unaffected by the existence of pregnancy.

The general symptoms of secondary syphilis, such as headache, neuralgia, and anaemia, are often more severe when associated with pregnancy.

The Effects of Syphilis on Pregnancy

Syphilis has a most pernicious effect on pregnancy. It has long been recognized that it is a fertile cause of abortion and premature delivery. The premature expulsion of the ovum is nearly always preceded by death of the foetus, often accompanied by certain morbid changes, more or less characteristic of the disease, in the foetus and its appendages, so that a consideration of the effect of syphilis on pregnancy must overlap the consideration of the effect of syphilis on the ovum. A more detailed account of the effect of syphilis on the ovum will be reserved for the next section. Repeated miscarriages, or the repeated death and premature expulsion of the foetus at some time between the sixth and eighth month of pregnancy, is always strong presumptive evidence of syphilitic infection.

Syphilis may lead to abortion if it is acquired before conception or at the time of conception. It may lead to the premature delivery of a dead foetus if it is acquired at either of these times or during the first three or four months of pregnancy. If acquired later than this, death of the foetus and premature delivery is not likely to occur. Probably syphilis acquired a short time before conception is most likely to be followed by abortion or premature labour, but even when the disease has been acquired some years earlier it may still lead to the same result ; this is especially likely to be the case if the patient has not been adequately treated. Some difference of opinion exists as to the period of pregnancy at which the ovum is most likely to be expelled. By most observers the second half of pregnancy, generally about the sixth or seventh month, is regarded as the time when this is most likely to happen, although abortion about the third month is quite common.

As to the actual frequency of abortion and premature labour in syphilitic women statistics cannot help us much. These accidents so very largely depend on the severity and date of the attack of syphilis, as also on the manner in which it was treated; and in grouping together a large number of women for statistical purposes who are said to have ‘ had syphilis ’ no account can be taken of these facts. Thus it is that the statistics given by different authors vary greatly.

Charpentier in 781 cases found the pregnancy interrupted 302 times (42 per cent.).

Fournier found in 200 pregnancies in 100 syphilitic women that abortion or the premature expulsion of a dead foetus occurred in 140 cases (70 per cent.).

Some authors consider that syphilis acts upon pregnancy as a general disease, and thus causes miscarriage. Probably in the majority, if not in all cases, it produces the miscarriage or premature labour by first causing the death of the foetus. This may be produced by the action of the poison upon the placental tissues, rendering them useless for the further nourishment of the child, or by the action of the poison on the child itself with or without the production of visceral lesions.

Hydramnios sometimes seems to be due to syphilis, and this may lead to the occurrence of premature labour.

The Effects of Syphilis on the Ovum

The effects of syphilis on the ovum will vary according as it is ante-conceptional or post-conceptional. Ricord is of opinion that it is not transmitted to the child if acquired after the end of the sixth month of pregnancy. Recent untreated syphilis is likely to produce more severe results than when the disease is of long standing. For how long a syphilitic woman may continue to transmit the disease to her offspring is not certainly known, but Weil quotes a case where it occurred after twenty years. There is no doubt, however, that the tendency to transmit the disease becomes lessened with time.

No attempt will be made to differentiate between the effects of syphilis transmitted by the mother and that transmitted by the father. Whether in fact it can be directly transmitted by the father is a question that has been already discussed, but if it does occur it is comparatively rare. In the transmission of syphilis to the foetus the influence of the mother is preponderant. In a case of ante-conceptional syphilis the ovum may contain the syphilitic germ at the time of conception, or the infection may occur later in the course of gestation through the medium of the placenta. The effects of syphilis on the ovum are so varied that it will be simpler to arrange the results in a tabular form.

If a woman who has had syphilis becomes pregnant, one of the following things may happen to the ovum :—

1. The child may be born at term healthy, and may continue free from signs of the disease.

2. The child may be born at term, apparently healthy, but may develop symptoms of syphilis three to six weeks after its birth (infantile syphilis).

3. The child may be born alive at full term and show distinctive symptoms of syphilis at its birth (neonatal syphilis).

4. The child may be born alive at term free from the distinctive symptoms of syphilis, but may soon show other symptoms which are the result of the disease (haemorrhage, jaundice, &c.).

5. The child may exhibit various congenital malformations.

6. The child may die and be expelled prematurely without exhibiting any definite syphilitic lesions in itself or in its placenta.

7. The child may die and be expelled prematurely, and the placenta or child or both may show characteristic syphilitic lesions.

8. The embryo may be killed in the early months of pregnancy, and thus an abortion will result.

1. When a child is born healthy and continues free from any signs of syphilis, is it immune? According to Profeta (see also vol. i, p. 165) such a child can be safely nursed by its mother, or even by a syphilitic nurse, without any risk of acquiring the disease. The belief in the immunity of such children has been called the ‘law of Profeta’, but the evidence in support of it seems to the author rather inadequate. The fact that the child has not acquired the disease during intra-uterine life may be due to the weakness of the infection, or it may show that it possesses some individual quality which has acted so far as a protection, and this quality may persist for a time. Any such immunity is probably only temporary. Some of the children of women vaccinated during the latter months of pregnancy exhibit a temporary immunity to vaccinia, but there is no evidence to show that such immunity is permanent, and at any rate even in its temporary form it is only exhibited by less than half of the total number. The occurrence of syphilis in one of twin foetuses has been recorded by Fournier, and variola has also been observed occasionally to affect only one of twins. In

the present state of our knowledge we are not able to form a satisfactory hypothesis to explain these facts, but must be content to note them. It must not be forgotten that Fournier has recorded cases where the first signs of syphilis did not make their appearance until some years after birth. This, however, is very rare, and in the great majority of cases if a child shows no signs of syphilis by the end of the third month of life, it may be safely regarded as free from the disease.

2. Most children born alive at term, who have been infected with syphilis by their mother, show no signs of the disease at birth. The first symptoms occur some weeks later. This disease, known as infantile syphilis, is fully treated of in another section of this work (see vol. i, pp. 283–367).

3. Neonatal syphilis. This term has been applied by Ballantyne to cases where direct evidence of syphilis exists at the time of birth. The most common manifestation is a pemphigoid eruption especially on the palms of the hands and the soles of the feet. The blisters are usually large and at first contain clear or bloodstained serum, but later the fluid may become purulent. Similar vesicles are more rarely met with on the face, head, and trunk. After rupture they often leave ulcers. Very similar bullous eruptions in newly born children, due to streptococcal infection, are met with, but these are rare. The development of other symptoms, such as mucous tubercles about the anus, will soon render diagnosis possible in doubtful cases.

4. The other effects of syphilis in a child born alive at term, which, if not obvious at once, develop in the first few days of life, are :—

(*a*) Extreme debility.
(*b*) Jaundice.
(*c*) Haemorrhage.

(*a*) *Debility.* A child which is the subject of syphilis may be born thin and wretched-looking and soon die, or, on the other hand, at the time of birth it may appear quite well-nourished. In the latter case, however, it may exhibit what Fournier describes as an 'inaptitude for life'. It rapidly loses weight and seems unable to assimilate food, and without presenting any appreciable signs of disease, it soon dies of asthenia. Some degree of anaemia is usually present. The red cells are deficient in number and the haemoglobin is below the average (see also vol. i, p. 332).

(*b*) *Jaundice.* Jaundice of a rapidly fatal type may result from syphilis. This develops within a day or two of birth and usually leads to death within a week. The frequency with which the liver is affected by the syphilitic poison is no doubt the explanation of this. It is the result of an ante-natal syphilitic hepatitis. Within a few days of the onset symptoms of acute yellow atrophy often develop. The temperature is high and haemorrhage may occur (see vol. i, pp. 312–15, 331).

(*c*) *Haemorrhage.* Fatal haemorrhage from the gastro-intestinal tract may occur as the result of syphilis without the presence of any visible local lesion. If the bleeding is less free the altered blood may render the motions black and tarry-looking (*melaena neonatorum*). In severe cases the child rapidly becomes profoundly anaemic and soon dies. Haemorrhages may likewise occur beneath the skin. Extensive visceral haemorrhages are not infrequently met with, but their presence can only be determined after death.

Rapid death sometimes occurs as the result of extensive bleeding beneath the capsule of the liver. Secondary haemorrhage from the umbilical cord may, in some cases, owe its origin to syphilis. It must be remembered that haemorrhage such as above described may occur in non-syphilitic subjects. Syphilis, however, is one of the causes of bleeding of this kind (see vol. i, p. 331).

5. *Malformations.* There seems to be no doubt that syphilis acting on the ovum during the formative period of development may lead to the occurrence of malformations of various kinds. It has been asserted that this is especially apt to occur in cases where the disease is of long standing. The rule that recent syphilis causes syphilitic disease of the child and old syphilis causes malformations is certainly not absolute. The malformation may sometimes take the form of delayed development of the teeth, sexual system, or body as a whole; or more definite abnormalities of development may be met with, such as spina bifida, cleft palate, micro-, or hydrocephalus, &c. Almost all

the various forms of congenital mal-development that occur may sometimes apparently owe their origin to the syphilitic taint.

6. *Habitual death of the foetus.* The condition known as 'habitual death of the foetus' may in some cases be due to the effects of syphilis. In such cases the child dies in each succeeding pregnancy, usually about the thirtieth to the thirty-fourth week of intra-uterine life, and is soon afterwards expelled. It may show no naked-eye external or internal evidences of syphilis. In a case recently investigated by Dr. H. Williamson and Dr. Eardley Holland, and published in the 'Transactions of the Royal Society of Medicine', vol. i, 1908, the *Spirochaete pallida* was found in the liver and spleen of the child, although on naked-eye examination nothing abnormal could be discovered (see also vol. i, p. 65).

7. The expulsion of a dead and often macerated foetus, which, as well as the placenta, shows well-marked syphilitic lesions, is extremely common. The extensive placental and hepatic lesions are fully adequate to account for the foetal death. The effects of the maceration must be distinguished from those of the syphilis. They will be fully discussed under the heading of the morbid anatomy of the foetus and its appendages.

8. *Abortion.* The ovum may be destroyed at a comparatively early stage of its development and be expelled, usually about the end of the third month. Very little is known about the changes met with in the chorion or foetus in these cases.

MORBID ANATOMY

The Placenta. Changes in the placenta consequent on syphilis are well known to occur. The effects of the syphilitic poison on the foetus vary very much in degree, so also do those produced in its most important appendage, the placenta. The placenta may present to the naked eye a perfectly normal appearance, and yet the child may exhibit, at the time of birth or within a few weeks, indubitable signs of syphilitic infection. It is not uncommon, however, for the placenta to exhibit well-marked changes which, even if they cannot be described as absolutely characteristic, are, none the less, strongly suggestive of syphilis.

In the first place, the placenta, in a case of syphilis, is frequently bigger than normal. The weight of the placenta varies to a certain extent with the size of the child, and generally corresponds to about one-sixth of its weight. In cases of syphilis it may attain a size equal to one-fifth or even one-fourth of the foetal weight. Pinard has pointed out that syphilitic children born alive at full term are often themselves unduly big, and at the same time the amount of liquor amnii present is frequently in excess of the normal amount. Thus in cases of syphilis we may get what Pinard describes as a 'big egg' (*gros œuf*). So much is he impressed with the importance of this sign that he makes it a rule that a child born with an unusually large placenta shall be suckled only by its mother. He considers that the increased volume of the placenta is most often seen in, if not entirely confined to, those cases in which infection occurred previous to conception.

In such a placenta the sulci between the lobes are generally deep and the cotyledons are thus strikingly mapped out. In colour it is paler than normal with yellowish-white patches. The substance of the placenta is often softer and more friable than usual, and on section shows a peculiar mottled appearance which has been compared to sausage meat. To the naked eye the vessels of the cord may show thickening of their walls. Extensive changes in the umbilical vessels, leading as they do to thrombosis, are inconsistent with foetal life, and therefore are not observed to any marked extent in cases where the child is born alive. Slight irregular thickenings of the vessel walls are common in the cord quite apart from any syphilitic infection (see also vol. i, p. 133, and Plate XXXIII).

When the foetus is dead the cord often presents an oedematous appearance, and the golden-coloured thickened vessels may then be seen shining through the brown and swollen cord. Absence of Whartonian jelly, with separation of the vessels, has been described by Macé and Durante as occurring in syphilis.

The liquor amnii, as above stated, is frequently present in excess, but hydramnios is by no means pathognomonic of syphilis. It is frequently met with in diseases of the foetus and may possibly be accounted for in cases of syphilis by the lesions which have occurred in the placenta and liver. The source of the liquor amnii is not known with sufficient certainty to warrant any dogmatic statement as to the cause of hydramnios in syphilis. The changes above described, though highly suggestive of syphilis, cannot perhaps be regarded as absolutely pathognomonic. It must also be repeated that a placenta perfectly normal in size and appearance does not preclude the existence of syphilis.

Microscopical changes. Morbid changes in the placenta due to the syphilitic poison must be carefully distinguished from the changes which commonly take place in this organ as the period of intra-uterine foetal life draws to its close. After the seventh month of intra-uterine life degenerative changes normally take place in the placenta. The smaller placental vessels show signs of obliterating endarteritis, and deposits of fibrin derived from the maternal blood are seen on the surface of the chorionic epithelium. As a result of these changes it is not uncommon to find solid pale patches on the placenta of varying size, known as infarcts. Such changes are often described as pathological, but they are really not so, at any rate they occur quite independently of any syphilitic infection. In cases where the foetus has died as the result of the syphilitic poison it is further necessary to distinguish those changes in the placenta which are due to syphilis and those which result from the death of the foetus itself. There is a lack of exact knowledge as to the precise changes which are directly dependent on foetal death, but probably some signs of perivascular inflammation are commonly met with under these circumstances. The microscopical changes in the placenta which are generally believed to be directly due to syphilis are most marked in the vessels. These show well-marked signs of arteritis affecting all the coats as well as periarteritis. These probably are the first changes, and many of the other alterations in appearance are secondary. In mild cases of infection periarteritis is the principal change, whilst in severe cases endarteritis is well developed, and as a result the foetus is likely to die.

These changes are most marked in the vessels of the villi, and as a consequence thrombi frequently form in the affected vessels. This accounts for the pale anaemic condition of the placenta and also explains the frequency of foetal death. The stroma and epithelial covering of the villi show signs of inflammatory proliferation and haemorrhages are frequent. A round-celled infiltration occurs and the epithelial cells often undergo a fatty or granular degeneration (see vol. i, p. 133 and Plate XXXIII). The so-called gummata of the placenta may be the result of haemorrhages or the result of an obliterating endarteritis similar to that which causes the infarcts so often found in the normal placenta.

An attempt was made by Fraenkel in 1873 to distinguish changes produced in the placenta according as the virus was transmitted to the ovum by the father or by the mother. He thought that in cases of syphilis derived from the father the foetal structures such as the villi and their vessels were the parts chiefly affected, whereas in cases where the source of the syphilis was maternal, the decidua showed the chief changes. In the present state of our knowledge it seems better not to attempt to make any such distinctions.

Changes in the chorion are much less marked than those met with in the placenta, but not infrequently it is found to be thickened, and on microscopic examination shows changes of a similar nature to those found in the placenta, that is to say, evidence of periarteritis with a round-celled infiltration.

The decidua basalis shows signs of the same vascular change with small nodules in it formed by masses of round and embryonal cells.

Since the discovery of the *Spirochaete pallida* efforts have been made to demonstrate its presence in the placenta, but this has not been attended with so great a measure of success as might have been anticipated.

Wallich and Levaditi ('Ann. de Gyn. et d'Obst.', 1906) investigated thirteen placentas, in six of which the existence of syphilis was certain, whilst in seven it was suspected. In five cases the spirochaete was searched for in sections, but was only found in one case. This was an undoubted case of syphilis as evidenced by the presence of pemphigus and visceral lesions in the foetus. The appearance of the placenta in this case showed nothing abnormal on naked-eye examination, nor was it increased in weight. Spirochaetes were found in considerable numbers in different parts of the foetal placenta. Thus they were demonstrated in the walls of the larger vessels given off from the cord, lying in a concentric fashion between the connective and muscular fibres. Still more abundant were they in the villi lying in the mucoid tissue or in contact with the capillary walls. Some few were found in the decidual tissue which had penetrated the placenta, but none were found in the decidua basalis.

Nattan and Tarnier have been able to demonstrate spirochaetes in the protoplasm of some of the large superficial cells of the decidua. According to these authors the spirochaetes reach the decidua through the medium of the foetus.

The Foetus. Syphilis may prove destructive to the foetus in the early months of pregnancy, but at this time no very characteristic lesions are found. In the later months of pregnancy, however, when foetal death is common, very definite and very characteristic lesions may be often found in the foetus. As with the placenta, so with the foetus, syphilis may leave no mark upon it, although it may destroy its life either before or shortly after its birth.

The Liver. Hepatic lesions are relatively frequent. The liver becomes enlarged with a smooth surface and a rounded margin. In some cases, although this is rare, the liver and spleen become so enlarged as to cause distension of the abdomen. In consistence the liver is firm and elastic and feels like rubber. The surface of the liver shows numerous white dots which have been likened to grains of semolina. On section the surface has a yellowish-white appearance which may be universal or, on the other hand, limited only to certain parts, and more of the semolina-like bodies are often to be seen. To this form of liver the name 'flint liver', or 'flint liver with semolina grains', has been given by French writers. It is from the black and flint-like colour of the surface of the cut section, and not from the hardness, that the name is derived.

Under the microscope there is a remarkable similarity in all syphilitic lesions. Periarteritis and a round-celled infiltration produce in the foetal liver a condition of general hypertrophic cirrhosis, sometimes with perihepatitis. The walls of the portal vein and hepatic artery may exhibit a similar thickening. Blood-vessels and bile-ducts alike may thus become compressed. Spirochaetes have been found, especially in the perivascular tissue between the glandular epithelium (see vol. i, pp. 312–15, also Plates XXX and XXXI).

The Spleen is very frequently, if not invariably, enlarged in the syphilitic foetus. The normal weight of the spleen in the foetus at term is 7 grms. In cases of syphilis it may weigh from 15 to 20 grms., and in rare instances as much as 40 grms. This enlargement is mainly the result of the changes in the portal circulation, but periarteritis can be observed around some of the vessels.

Spirochaetes have been found by many observers in the spleen pulp and particularly around the great vessels (see vol. i, Plates XIV and XVI).

The kidneys, pancreas, and supra-renal bodies also exhibit a small-celled infiltration, thickening of the vascular walls and consequent increase in weight. These may be signs of epithelial degeneration.

The Peritoneum. Foetal peritonitis is not uncommonly the result of syphilis. Lymph is found scattered over the surface, and this may or may not be accompanied by an effusion of fluid. Subperitoneal haemorrhages forming ecchymoses are frequent, and occasionally larger collections of blood are found beneath the peritoneum, especially over the liver.

The Lungs. Pulmonary lesions are very common (see vol. i, p. 71, and Plate XXXII).

Four varieties have been described :—

1. Pneumonia gelatinosa specifica.
2. Pneumonia alba syphilitica.
3. Pneumonia interstitialis fibrosa chronica.
4. Scattered miliary syphilomata with fibroid changes in the adjacent lung tissue.

In the first of these conditions the lungs present the appearance of a diffuse gelatinous infiltration, whilst in the second patches of hepatized tissue are seen produced by the filling up of the air vesicles with cells in a state of fatty degeneration. The conditions met with in the third variety are sufficiently indicated by its name (see also vol. i, Plate XXXII).

The Thymus may be affected by syphilis. As a result, small softened nodules looking like gummata or multiple abscesses are occasionally found in it. Their nature is uncertain.

The Blood. The changes in the blood have not been fully investigated. There is a lymphocytosis, and, as already mentioned, the red corpuscles and haemoglobin are both deficient (vol. i, p. 125).

The Bones. A condition known as syphilitic osteochondritis is very characteristic of the disease in the foetus. When a long bone is examined in section a broad yellow line is seen running across it at the point where the diaphysis and epiphysis join. Thus the shaft of the bone is sharply separated from the cartilage of the epiphysis by a layer of tissue which appears yellow in section. This yellow line is due to caseous or fatty degeneration taking place in the cells formed at this point, and as a result separation of the epiphysis may occur (see also vol. i, pp. 335–6).

TREATMENT OF SYPHILIS DURING PREGNANCY

Treatment. If a woman at the time of conception is suffering from primary or secondary syphilis, or if she becomes infected at the onset of pregnancy or during her pregnancy, she requires active treatment just like any other patient who is suffering from the disease ; but in this case the treatment is called for not only for her own sake but also for the sake of the child *in utero.* As syphilis, especially in pregnant women, is often attended with anaemia, this condition should also be treated, if present, by the administration of iron and arsenic in addition to mercury.

Mercury may be administered by the mouth, by inunction, or by intramuscular injection.

If the woman has no symptoms of syphilis, but gives a history of having had the disease at some previous time, it is generally advisable to give mercury during some part, if not the whole period of pregnancy. The object of treatment in such a case is to prevent the infection being transmitted from the mother to the foetus. Whether the infection is stored up in the ovaries or elsewhere, there is no doubt of her power to infect the foetus long after the original attack of syphilis has occurred, and this quite apart from whether the disease took a mild or severe form. Unless there is good evidence to show that the patient has undergone an efficient course of treatment at the time of the original infection it is well to administer mercury in the form of liq.

hydrarg. perchlor. (ʒi ter die), or hydr. c. cret. in 2-grain doses three times a day during the whole course of pregnancy, if the patient can stand it. If she has already been through a prolonged course of mercurial treatment, smaller doses of liq. hydrarg. perchlor. combined with iodide of potassium may be given during the first six months of the pregnancy.

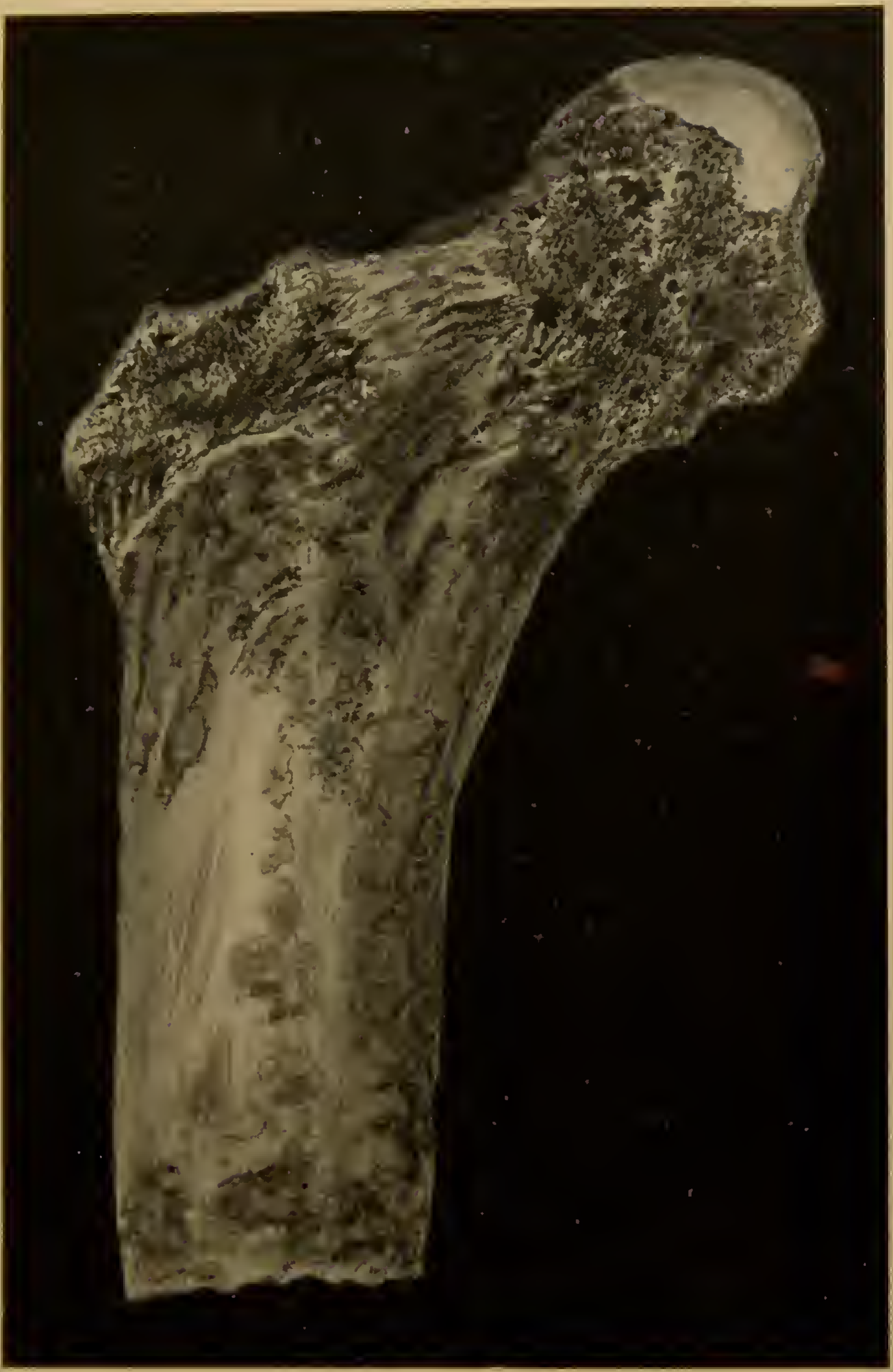
A similar form of treatment will be called for in those cases in which, without any actual history of syphilis, repeated miscarriages or repeated premature expulsions of a dead foetus have occurred. This will be especially desirable if, from examination of the foetus and placenta, evidence of syphilis has been obtained.

If a man who has had syphilis and has been properly treated for two years after he acquired the disease, then marries, is the wife to be subjected to mercurial treatment should she become pregnant ?

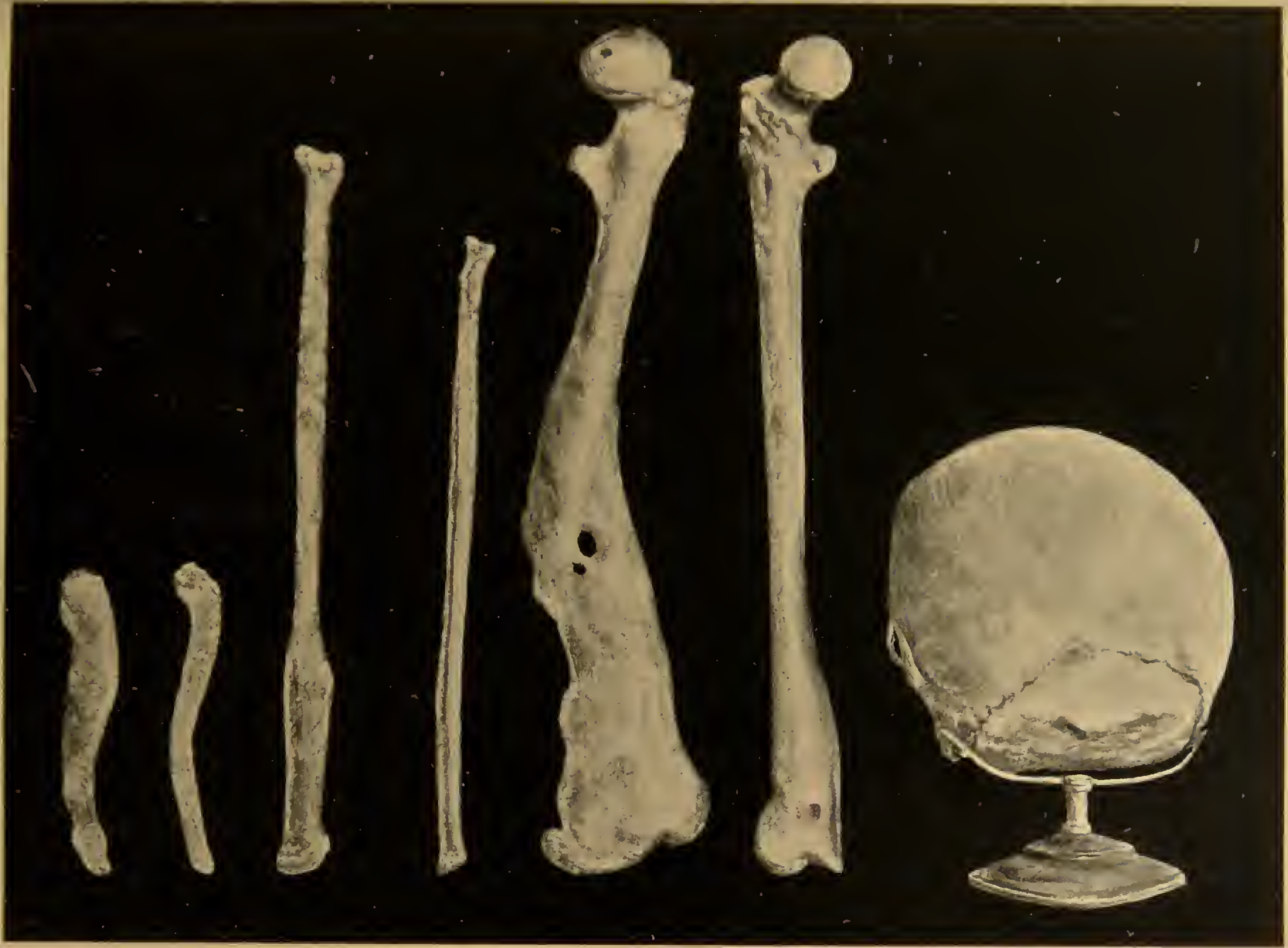
If it were proved beyond a doubt that the father may transmit syphilis directly to his offspring, and that as a result the woman may acquire syphilis by conception, it is clear that such treatment would be called for, and this would be more especially the case if the treatment of the man had been carried out inefficiently. On the other hand, as the wife is often unaware that her husband has suffered from this disease previous to marriage, it is eminently undesirable to subject her to such treatment unless absolutely necessary, as by so doing her suspicions may, not unnaturally, be aroused. The point is one of much practical importance, as, according to some observers, not only may the child be infected with syphilis, but the mother, during the course of the pregnancy, may develop symptoms of the disease which she has derived from the child.

In the light of our present knowledge with regard to paternal infection and conceptional syphilis, it is permissible to advise that no such treatment be undertaken in cases of this kind.

William J Gow



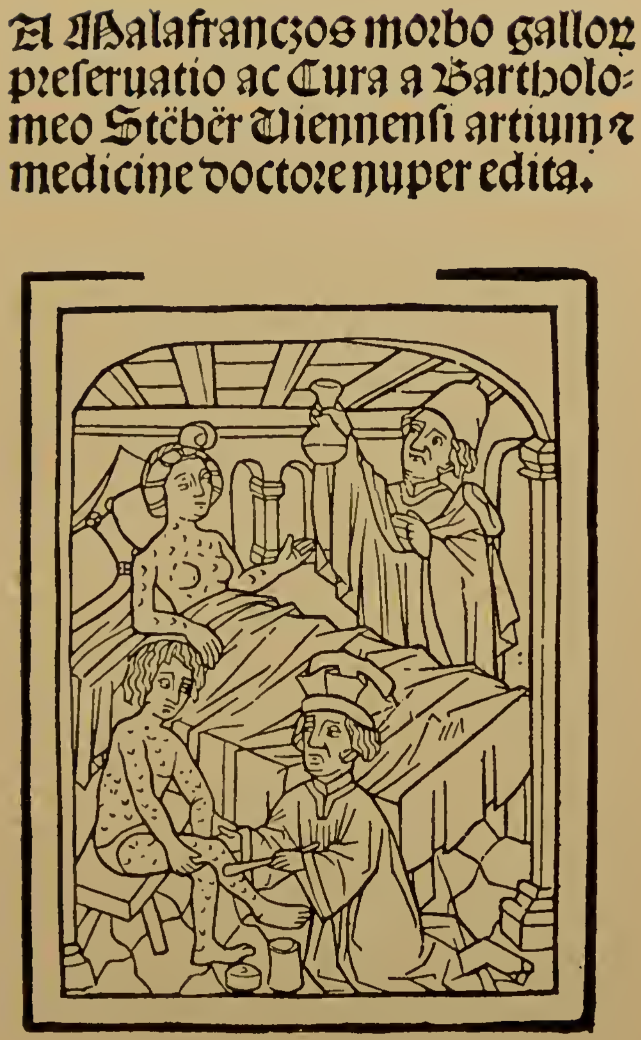
Portion of the right femur of an adult female dug up in the cemetery of Nunraw, East Lothian. It is suggested that it is 'the earliest specimen of syphilis on record', but nothing is known even approximately of the date of these interments in this cemetery. [See page 3.]



Portions of one skeleton from a burial mound in Colorado. The bones show evidence of chronic inflammatory changes similar to those occurring in syphilis. [See page 18.]

From the Peabody Museum of American Archaeology and Ethnology, Cambridge, Mass. Copied by permission from Dr. Prince A. Morrow's 'System of Genito-Urinary Diseases.'

PLATE III

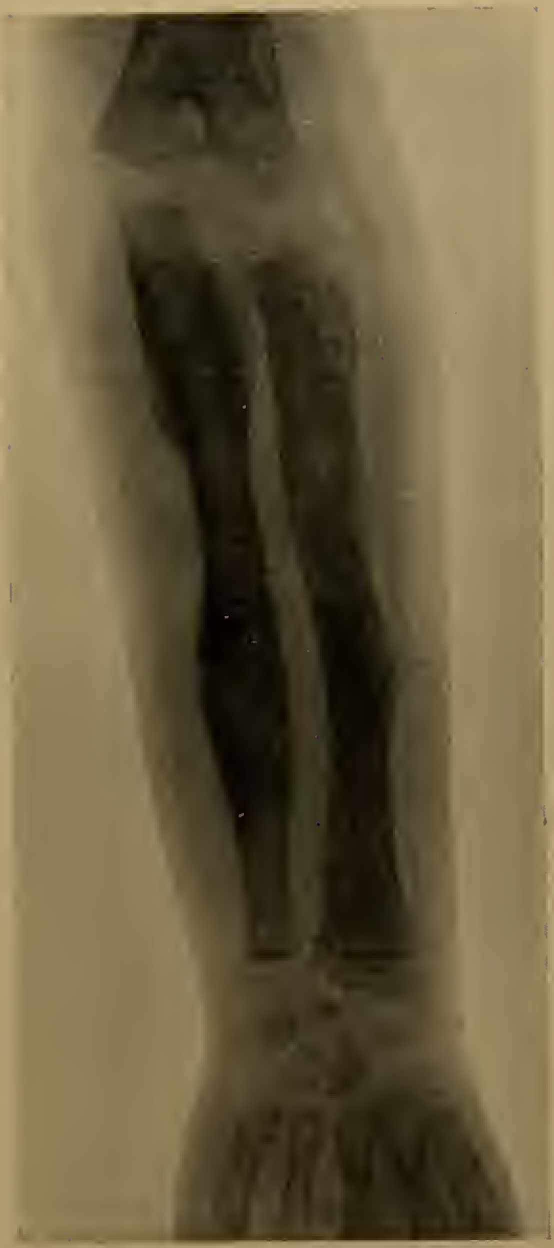


A Malafranczos moꝛbo galloꝝ
pꝛeſeruatio ac Cura a Bartholomeo
Stëbër Viennenſi artium ⁊
medicine doctoꝛe nuper edita.

The title-page of Bartholomew Steber's treatise on Syphilis, published in 1497 or 1498. A Doctor of Medicine is represented examining the urine of a woman with a syphilide, whilst the surgeon is painting the leg of a man suffering from an eruption of the skin. [See page 5.]

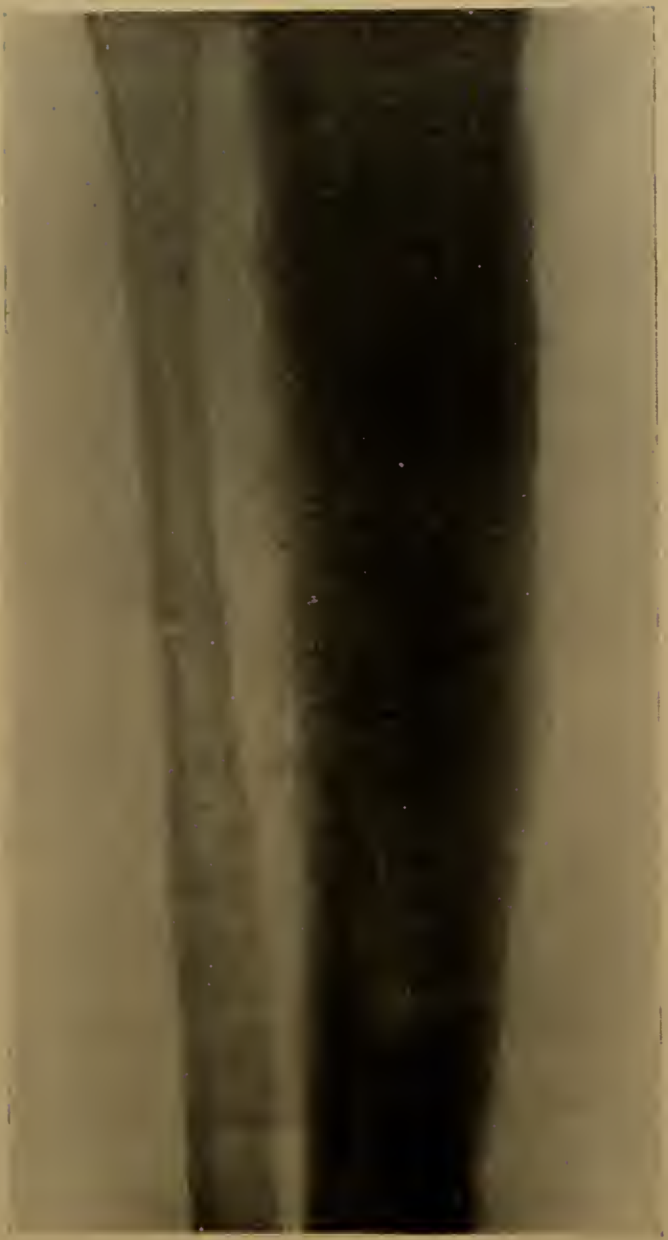
Steber was Professor of Medicine in the University of Vienna, Rector Magnificus in 1490, and Dean in 1492. He died at Vienna, January 14, 1506, and is buried in the Stephanskirche in that city.

PLATE IV



Radiograph of the forearm and wrist of a child aged 5 years. The bones are seen to be irregularly thickened by nodal swellings, which disappeared rapidly when mercury was given in the form of intramuscular injections. [See page 18.]

PLATE V



Radiograph of the tibia and fibula of a man, aged 35, who had contracted syphilis some years previously. The patient had complained of pain for two years. The whole tibia is thickened and inflamed. [See page 21.]

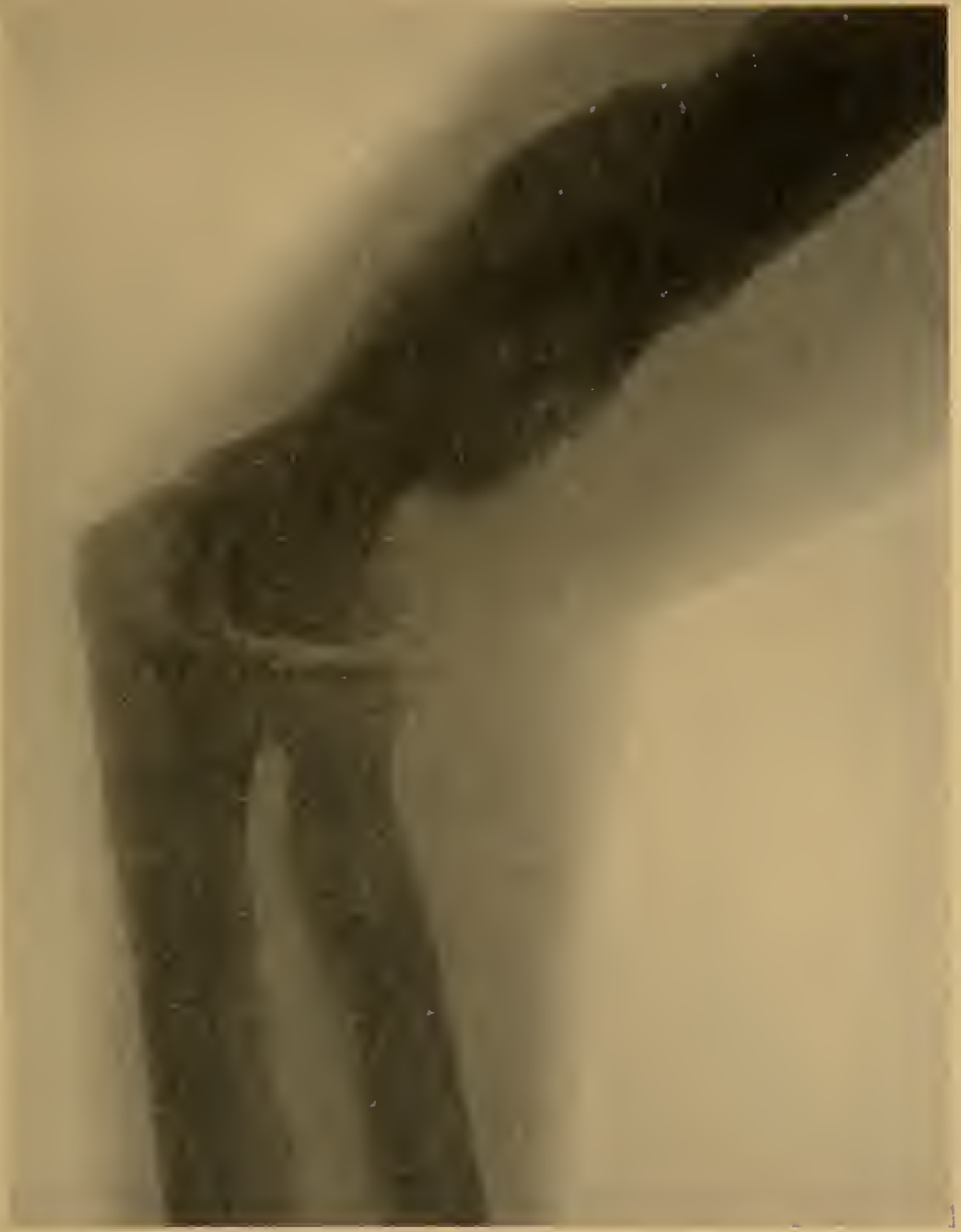


Fig. 1. Radiograph of the left elbow of a man, aged 26, showing gummatous osteomyelitis of the lower third of the humerus and of the contiguous sides of the radius and ulna. [See page 36.]

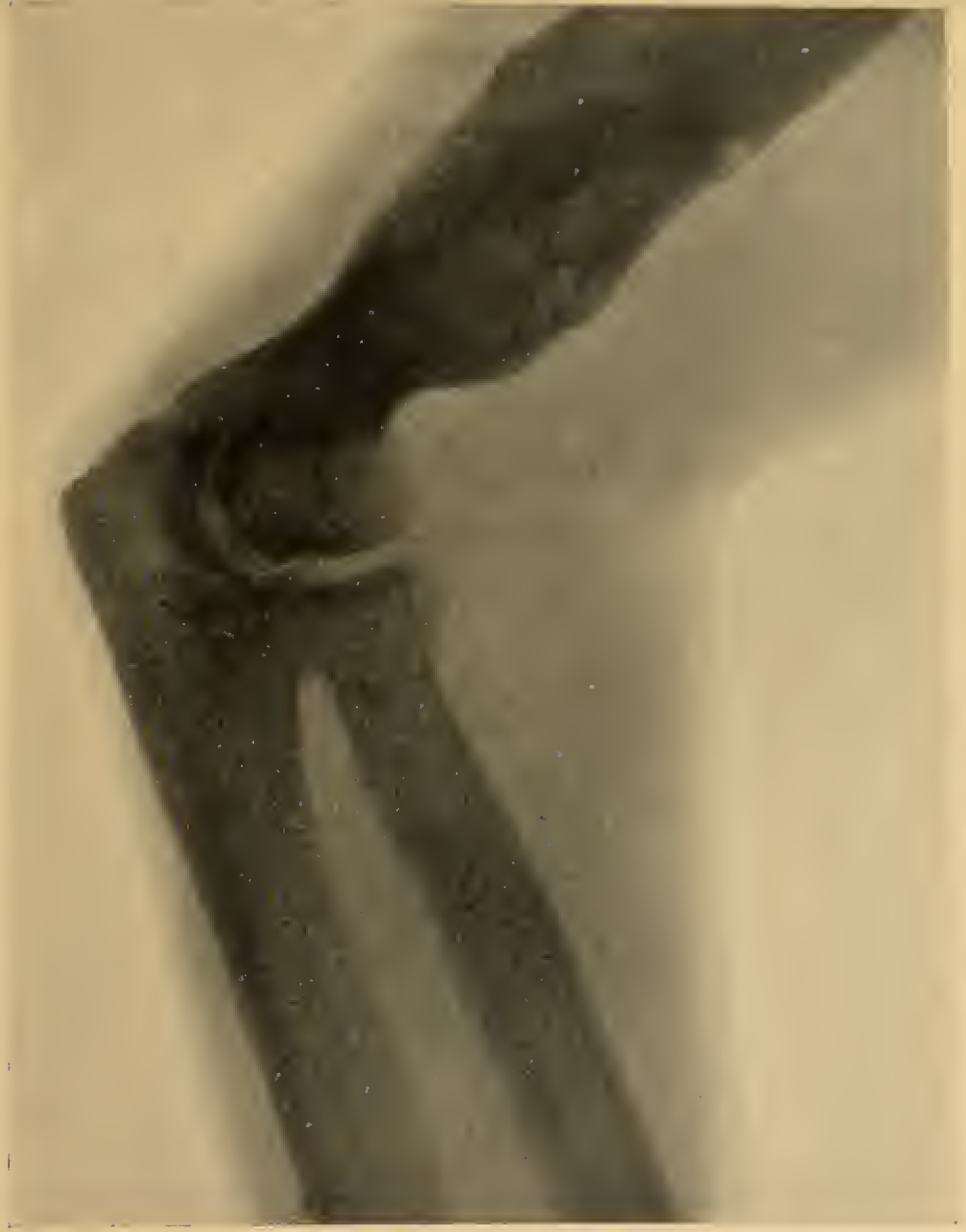


Fig. 2. Radiograph of the left elbow of the same man, showing gummatous osteomyelitis of the lower third of the humerus after one month's treatment with mercury. The inflammation is much more circumscribed than it is in Fig. 1. [See page 36.]

PLATE VII

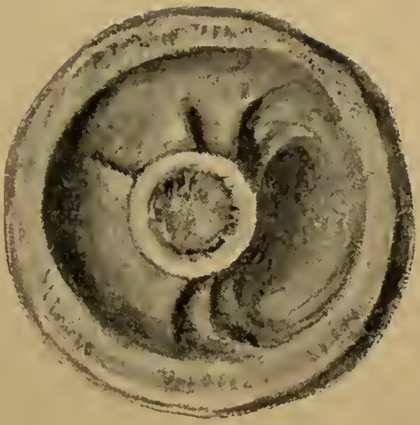


FIG. 2

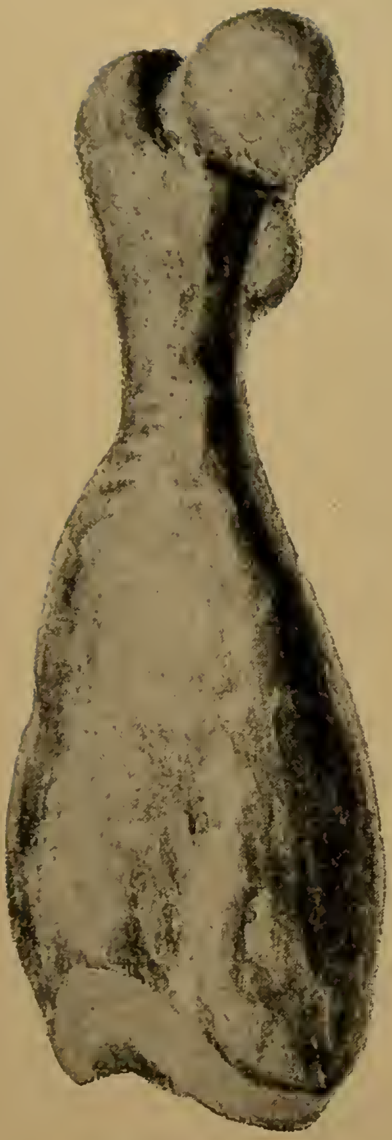


FIG. 1

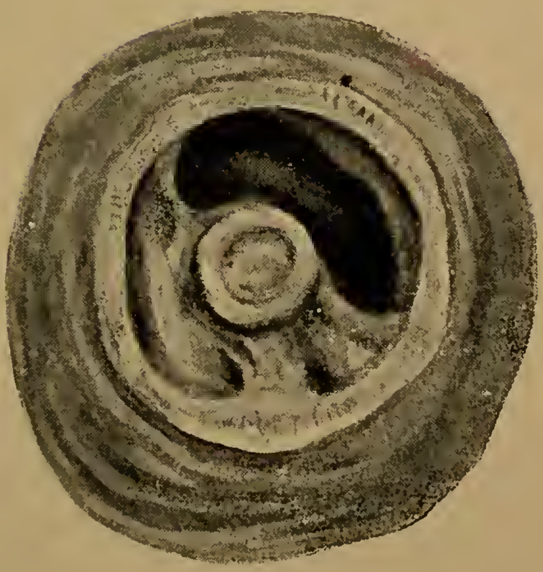
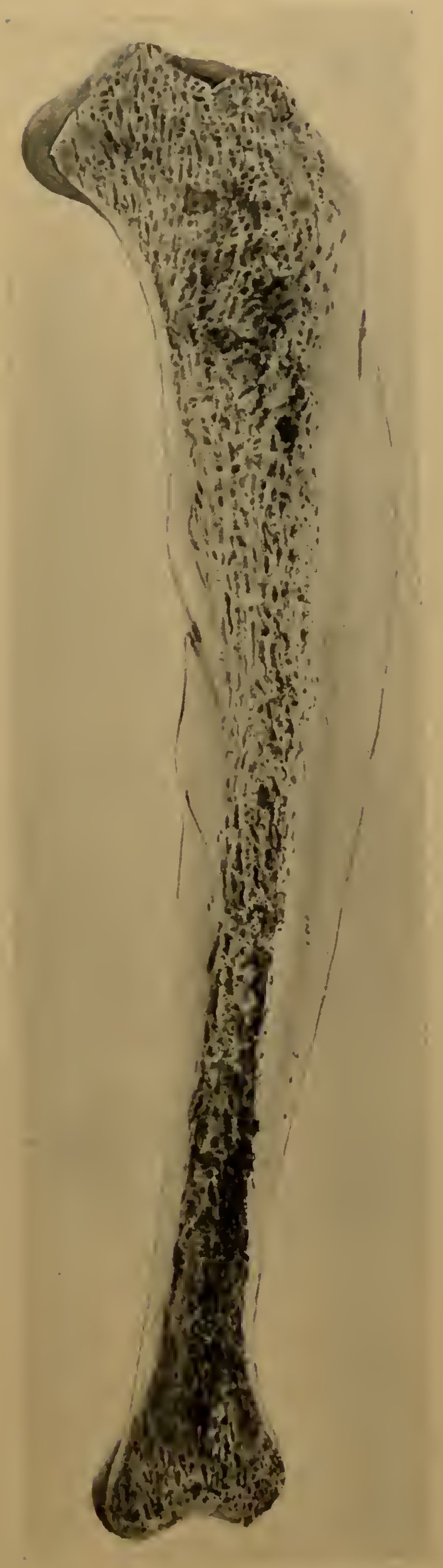


FIG. 3

Portions of the right femur of a child, showing the results of a chronic syphilitic periostitis. Fig. 1 shows the shaft of the bone to be greatly enlarged in its lower two-thirds. The sections [Figs. 2 and 3] show that the enlargement is due to a deposit of new bone laid down by the detached periosteum. The original shaft of the bone runs axially through the enlargement, and is connected with the new bone wall by irregular bands of calcified tissue. The cavity seen in Fig. 3 was filled with pus when the bone was first sawn across. [See page 23.]

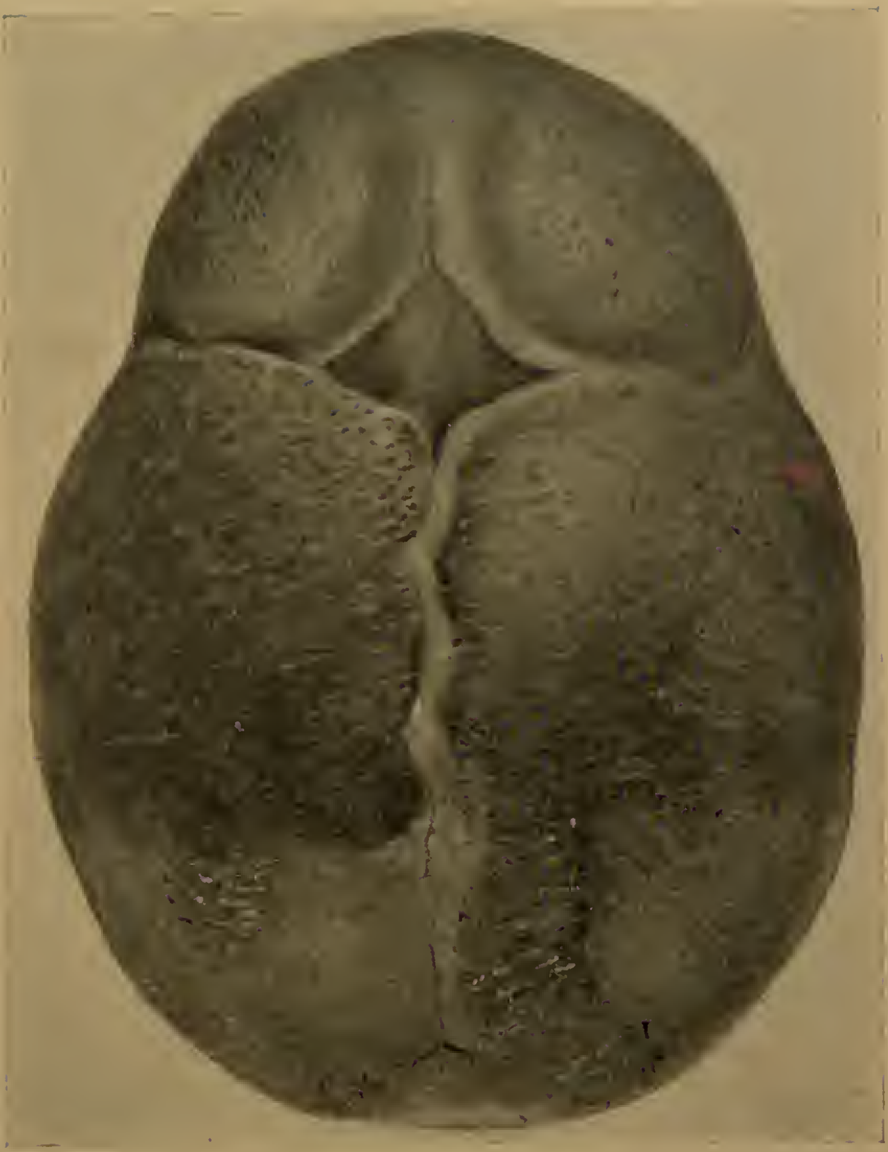
From specimens No. 39 a and 39 b, preserved in the Museum of St. Bartholomew's Hospital.



Section of a 'sabre-shaped tibia', from a patient with inherited syphilis. The shaft of the bone is gently curved forwards, and is greatly increased in thickness. The chief increase is in the anterior wall, which in some parts is an inch thick. It is caused by the addition of compact bone, which renders the whole bone hard and heavy. The opposite tibia was similarly affected. [See page 19.]

From a specimen in the Museum of St. Bartholomew's Hospital.

Plate IX



Photograph of a calvaria, showing vascular thickening of the bones (Parrot's nodes) round the anterior fontanelle. The child was aged one year and eight months, and showed no evidence of rickets. [See page 30.]

From the Museum of St. Bartholomew's Hospital.

PLATE X

FIG. 1

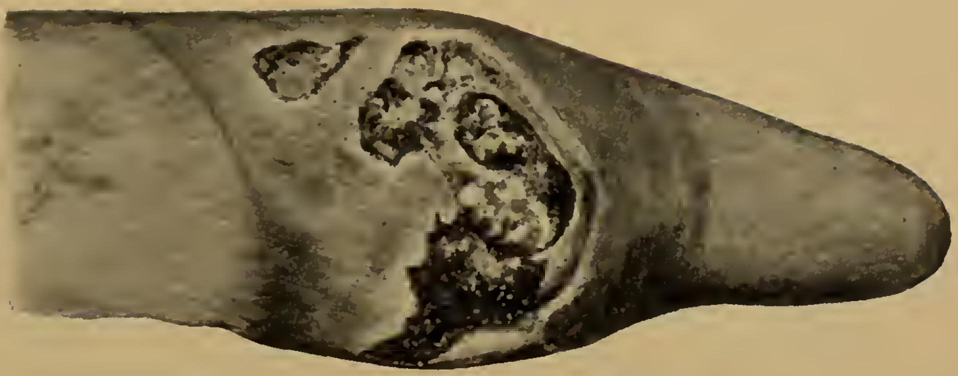


FIG. 2

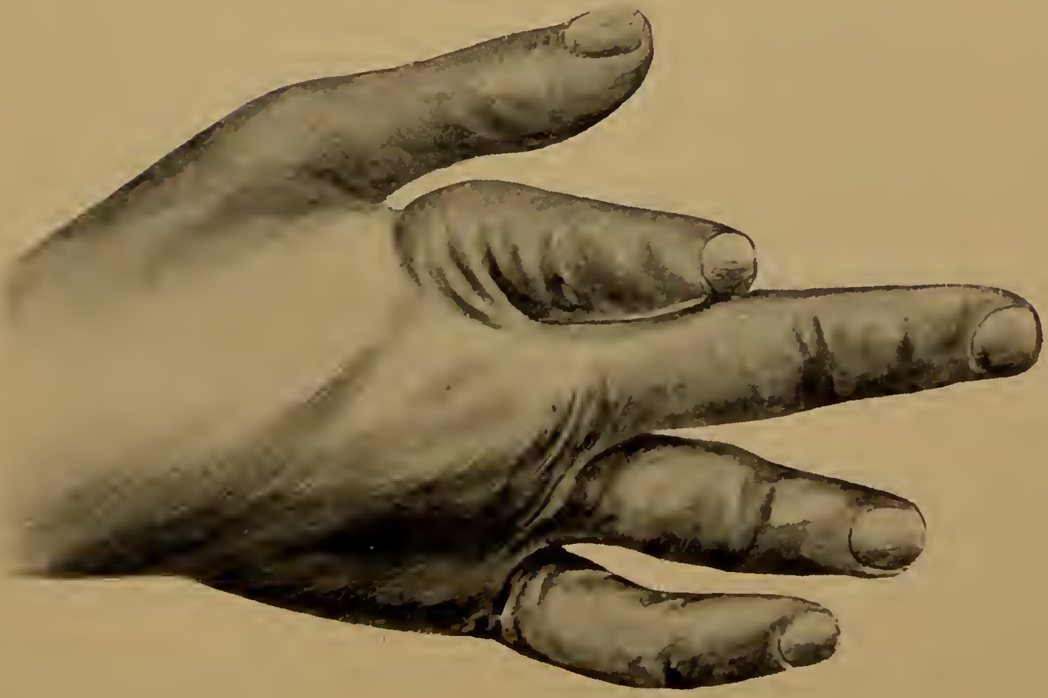
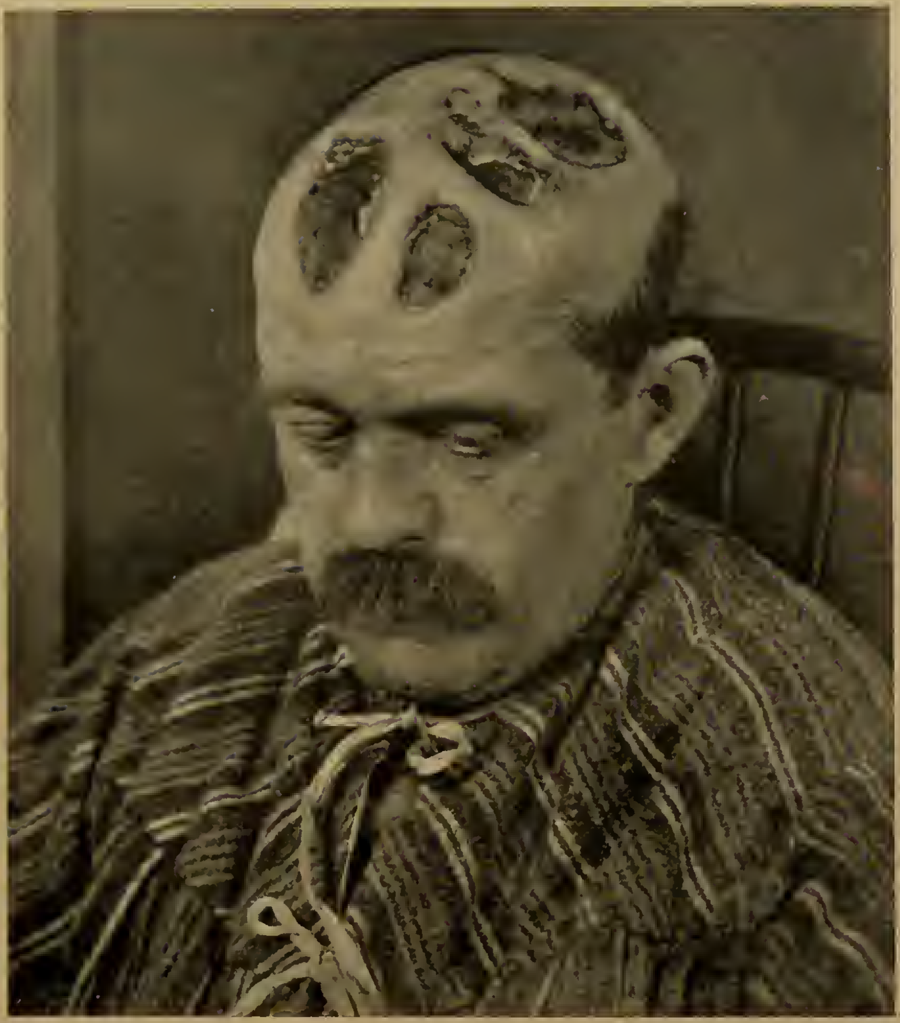


FIG. 1. Dactylitis of the second phalanx, with a gummatous deposit in the skin which has ulcerated. [See page 31.]

FIG. 2 shows the shortening and deformity which may be the result of syphilitic dactylitis. [See page 32.]

Copied by permission from 'A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis', by Robert W. Taylor, A.M., M.D.

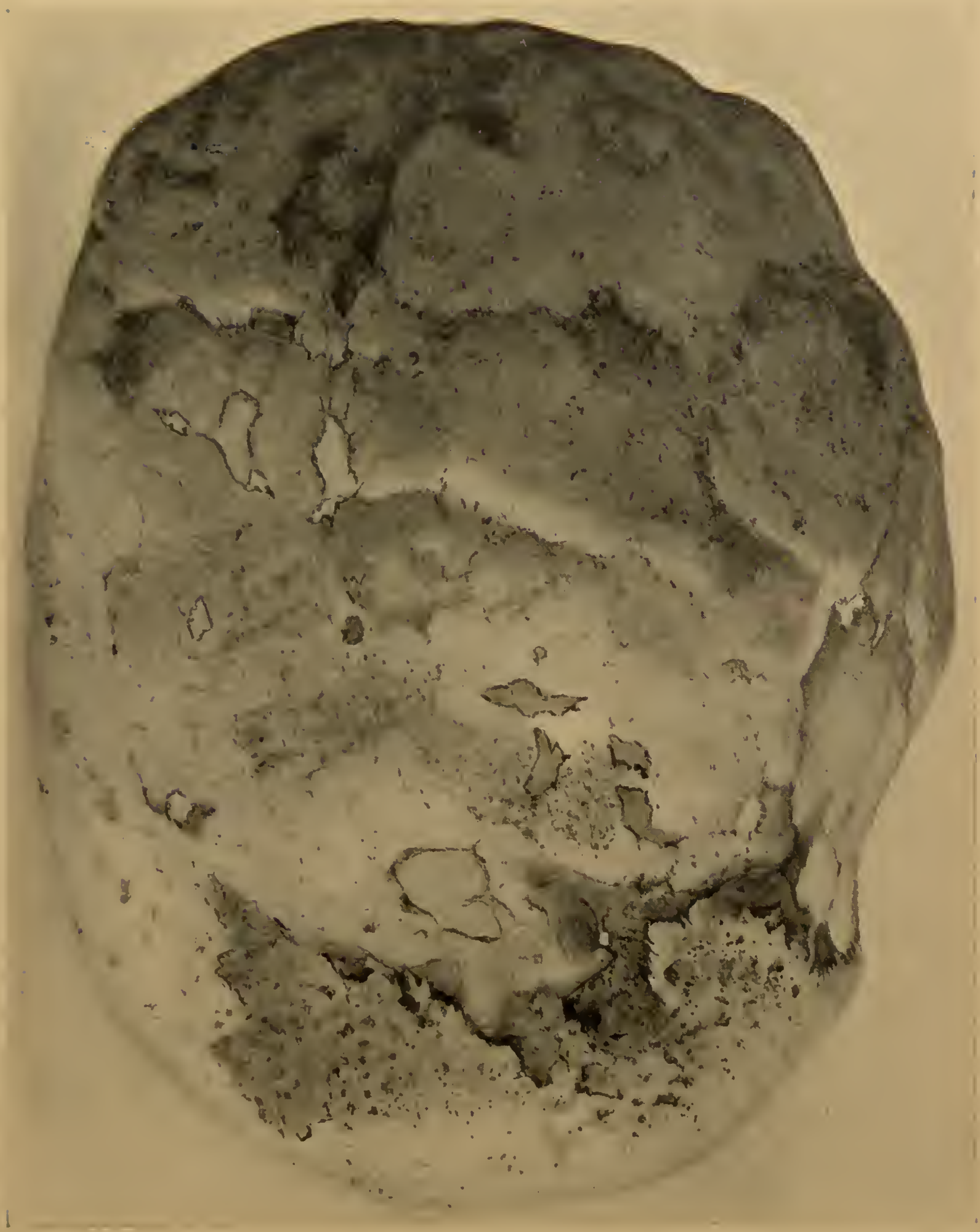
PLATE XI



Photograph of a man suffering from extensive syphilitic disease of the skull He had contracted syphilis in Japan in July, 1882, and had been treated with mercury for four months. Seven years later he suffered greatly from headache, and first noticed a swelling on the right side of his forehead. In 1893 pieces of dead bone were removed from the vault of his skull. The photograph was taken in April, 1894. [See page 33.]

From a photograph in the Museum of St. Bartholomew's Hospital.

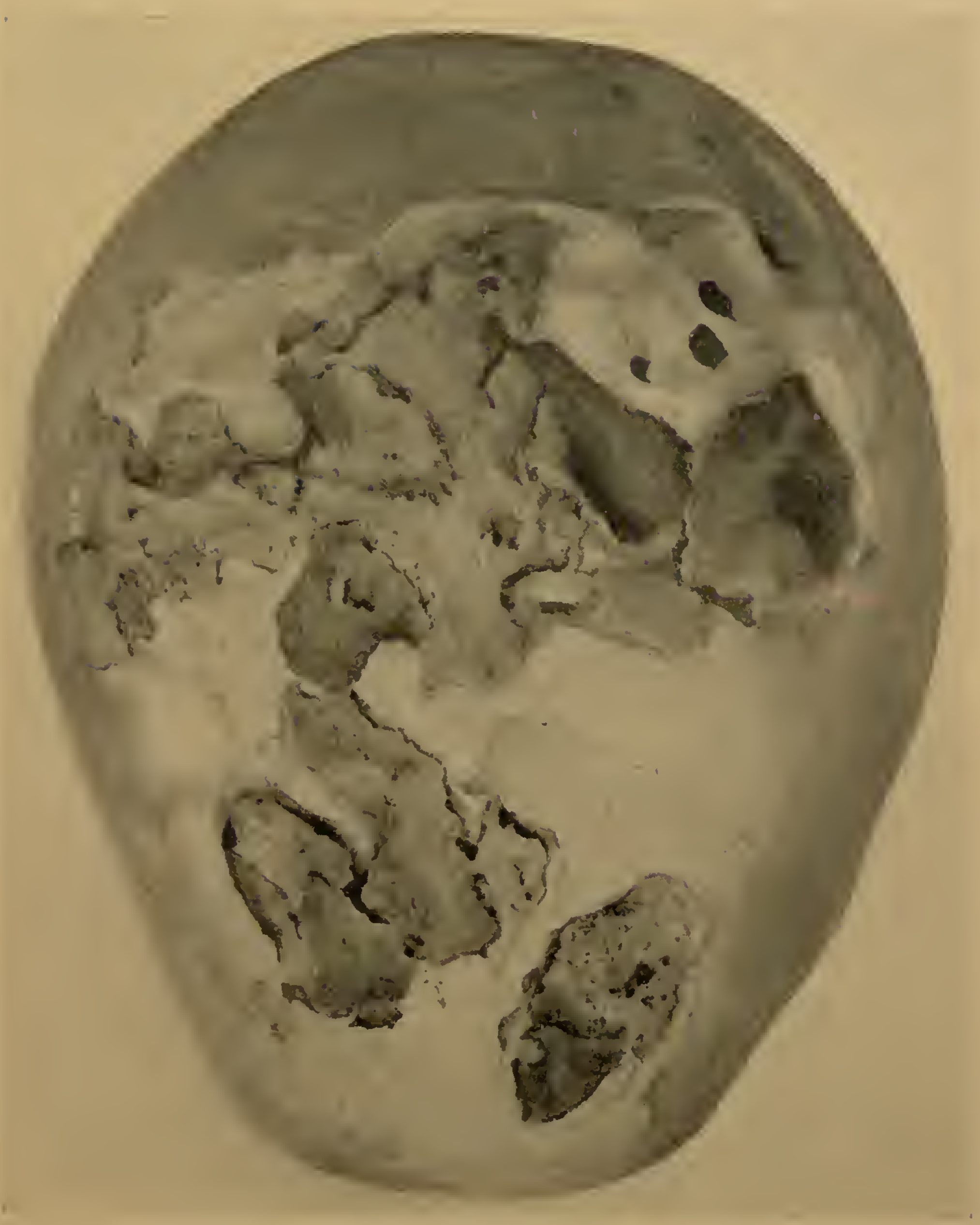
Plate XII



A skullcap showing the effect of gummatous inflammation, from a patient who died in the venereal ward at St. Bartholomew's Hospital whilst Percivall Pott was acting as surgeon [1744–1787]. The whole calvaria is scarred, seamed, and furrowed by the inflammatory process, which has extended in some parts through the entire thickness of the bone. The spaces thus left are occupied by membrane which is becoming ossified. [See page 34.]

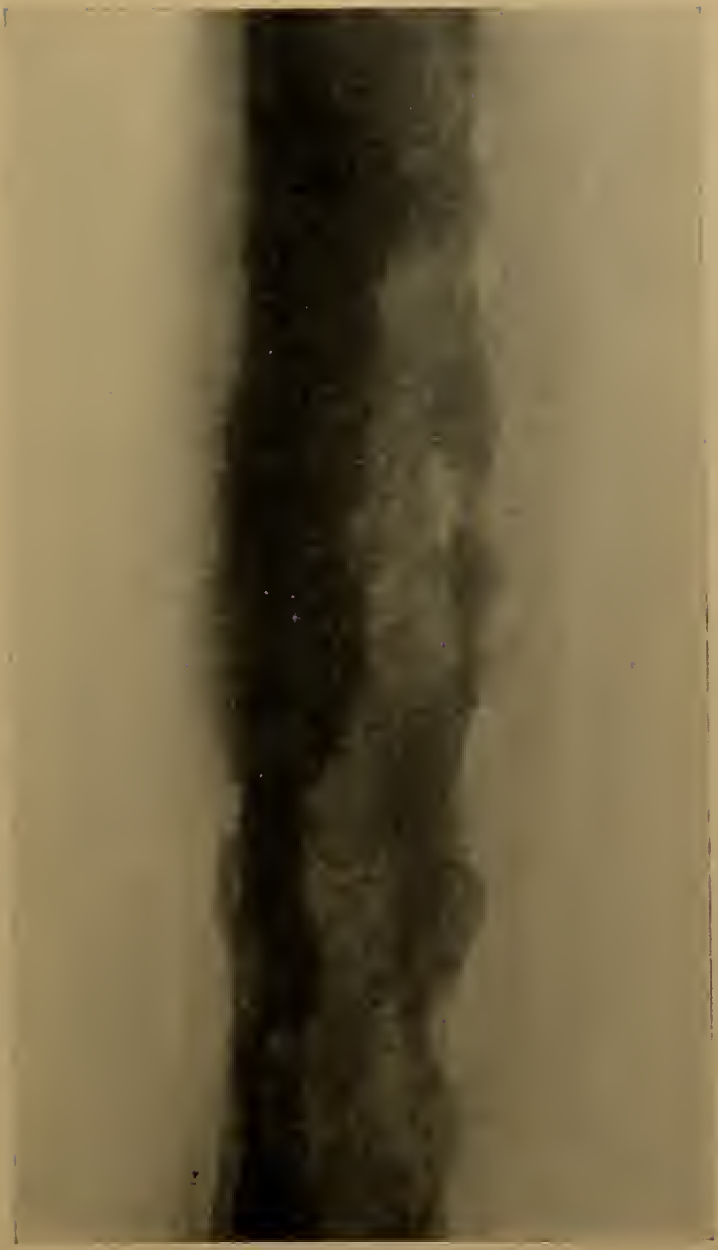
From a specimen in the Museum of St. Bartholomew's Hospital.

Plate XIII



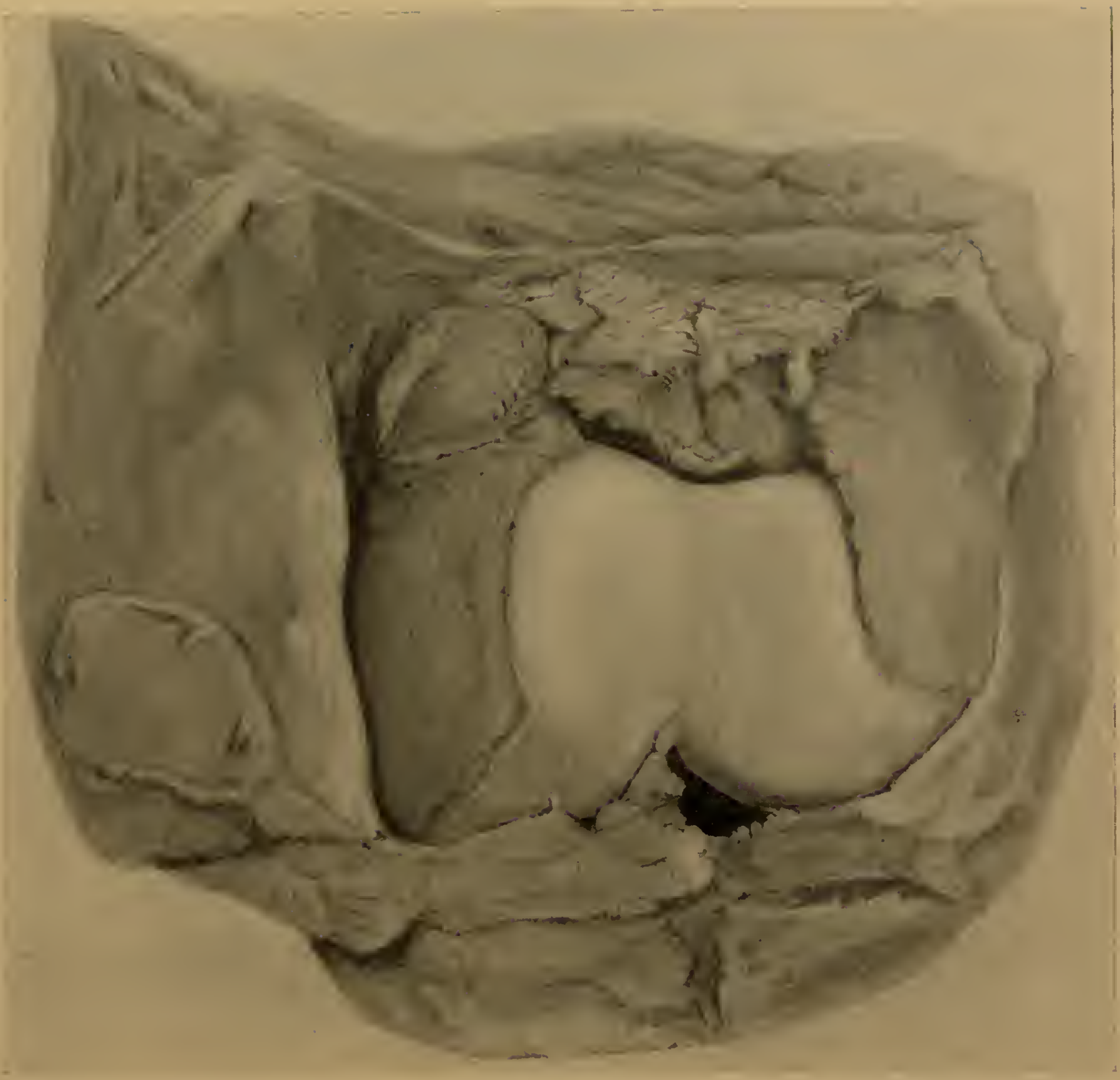
A skullcap showing the effects of gummatous inflammation. There has been extensive necrosis of several large portions of the frontal and parietal bones. Many of the sequestra have been completely separated and the surfaces of the diploe and inner table exposed by their removal have healed smoothly. Many other portions in which the necrosis extends through both tables of the skull are only partially detached. The intervening portions of skull appear to be quite healthy, and even their vascularity is not increased. [See page 34.]

From a specimen in the Museum of St. Bartholomew's Hospital.



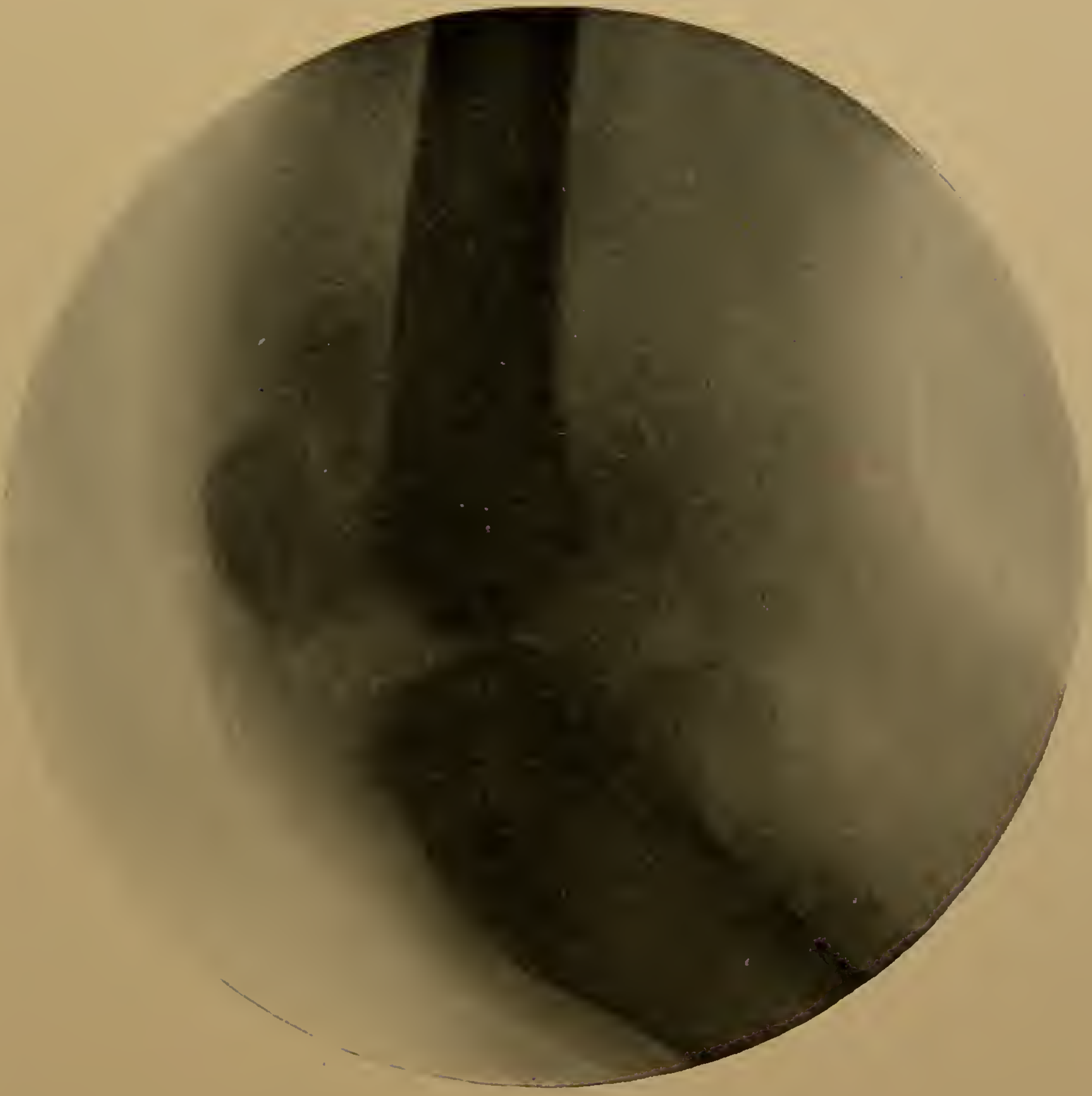
Radiograph of the tibia from a case of advanced syphilitic osteomyelitis. The shaft of the tibia is reduced to a mere channel of compact bone filled with a mass of caseating gummatous material which appears less dense than the inflamed bone. [See page 39.]

Plate XV

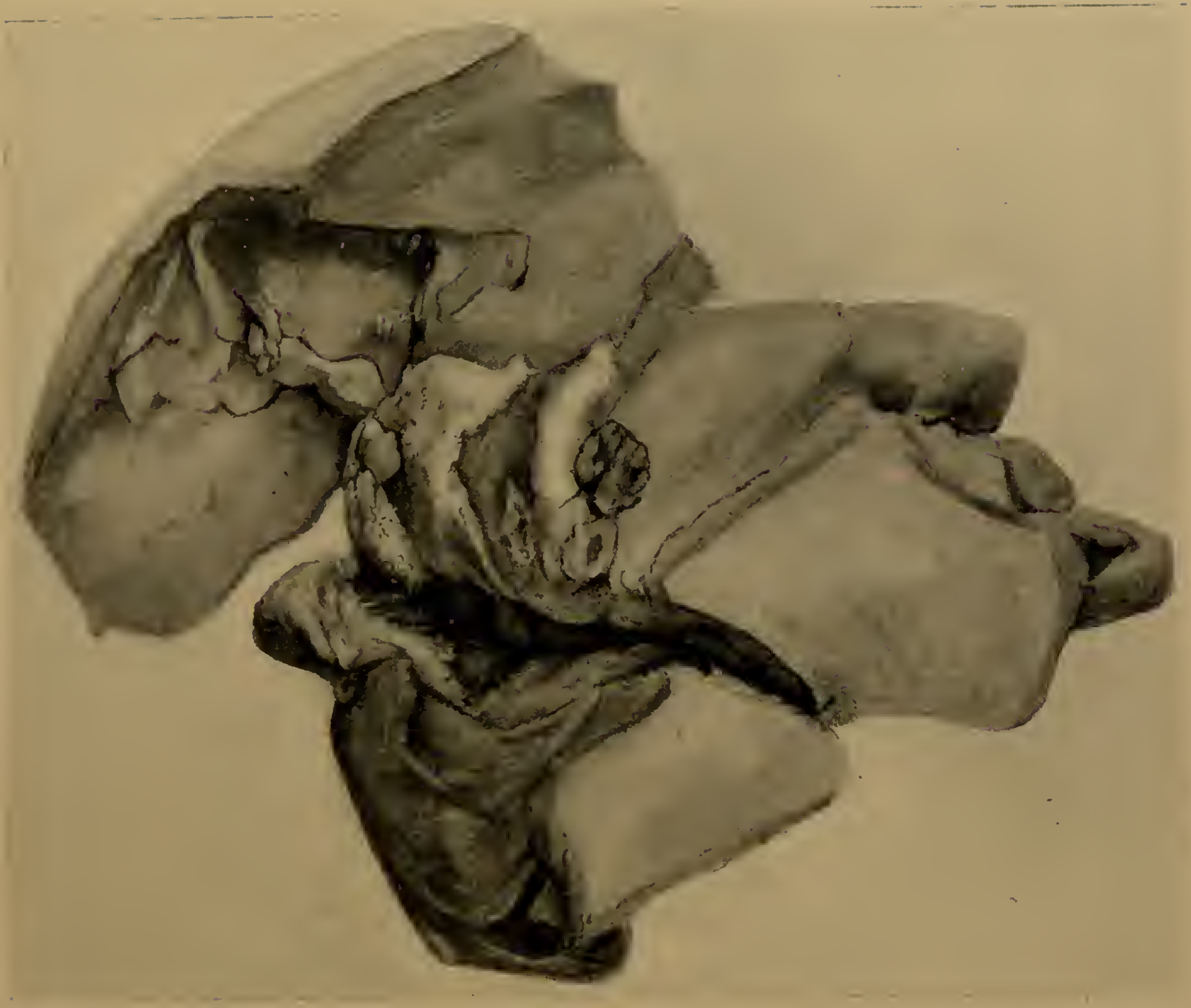


Gummatous synovitis of the knee, from a man, aged 24, who contracted syphilis three years before his death. The synovial membrane is irregularly thickened and in parts is ulcerated. The articular cartilage is healthy. [See page 51.]

PLATE XVI

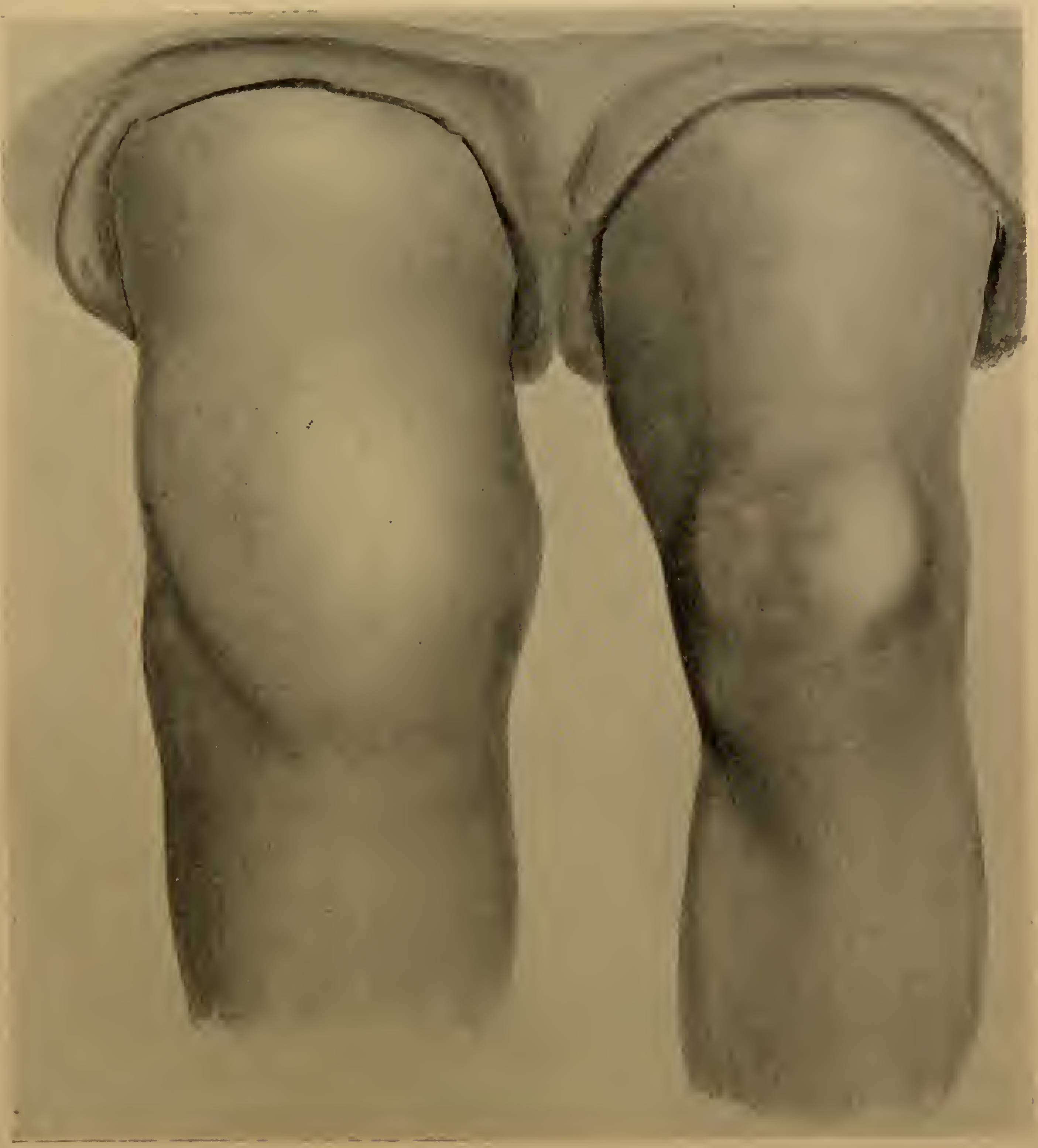


Radiograph of the knee of a patient affected with Charcot's disease, who died a few months later with the symptoms of a cerebral haemorrhage. The wasting of the lower end of the femur and the alteration in shape of the articular surface of the tibia are well seen. The osteophytic outgrowths round the articular ends of the bones are dimly seen. [See page 57.]



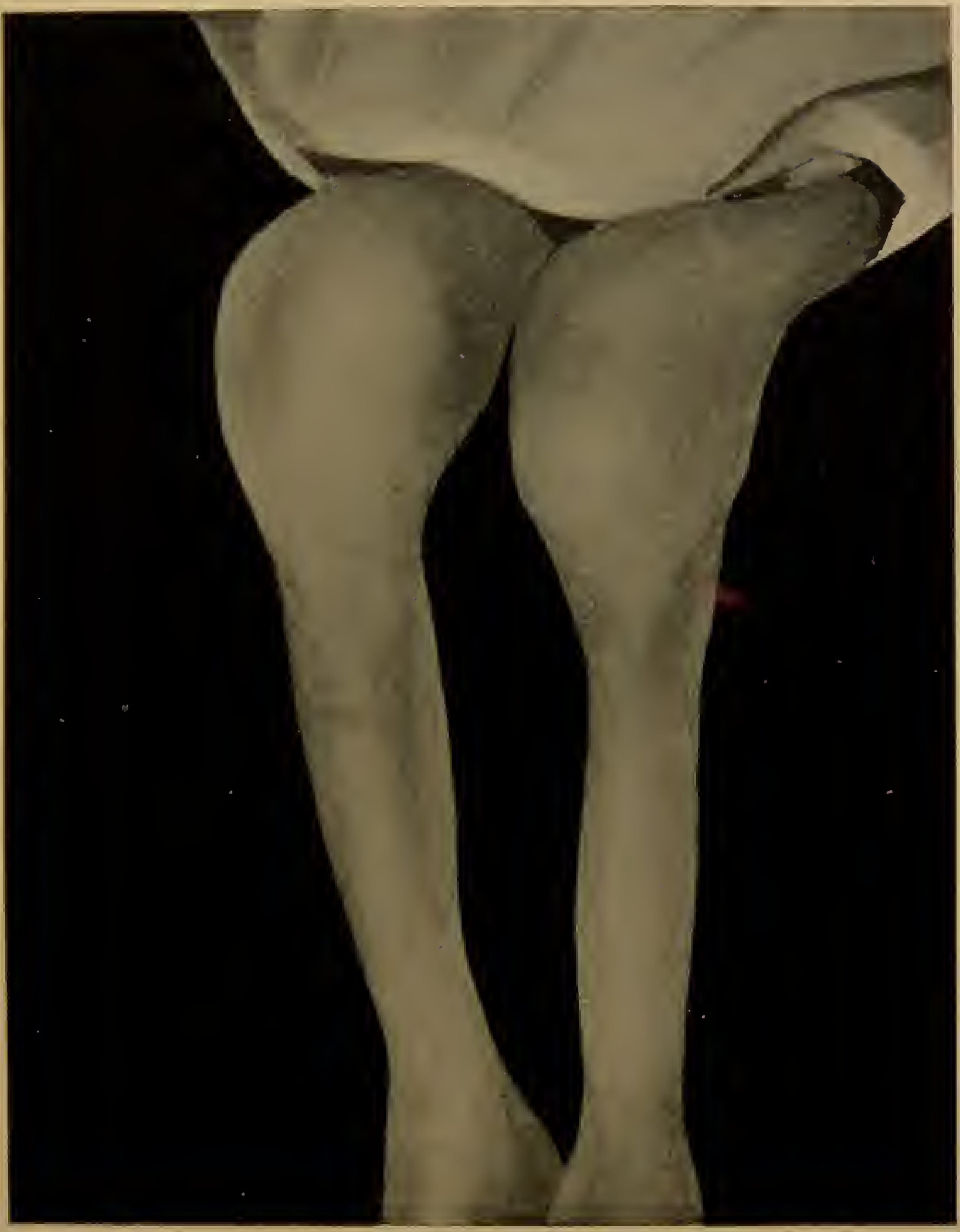
The knee-joint of the patient with Charcot's disease, from whom the radiograph [Plate XVI] is taken. The cartilage on the articular surfaces of the femur is extensively ulcerated: there are numerous osteophytes, the synovial membrane is thickened and its fringes are hypertrophied. Amputation was performed, and the patient died of cerebral haemorrhage a few months later. [See page 57.]

PLATE XVIII



Symmetrical serous synovitis in a boy aged 11 years. The right knee is more affected than the left and had been swollen 2½ years. The patient improved rapidly as soon as he began to take atoxyl and the iodides. [See page 61.]

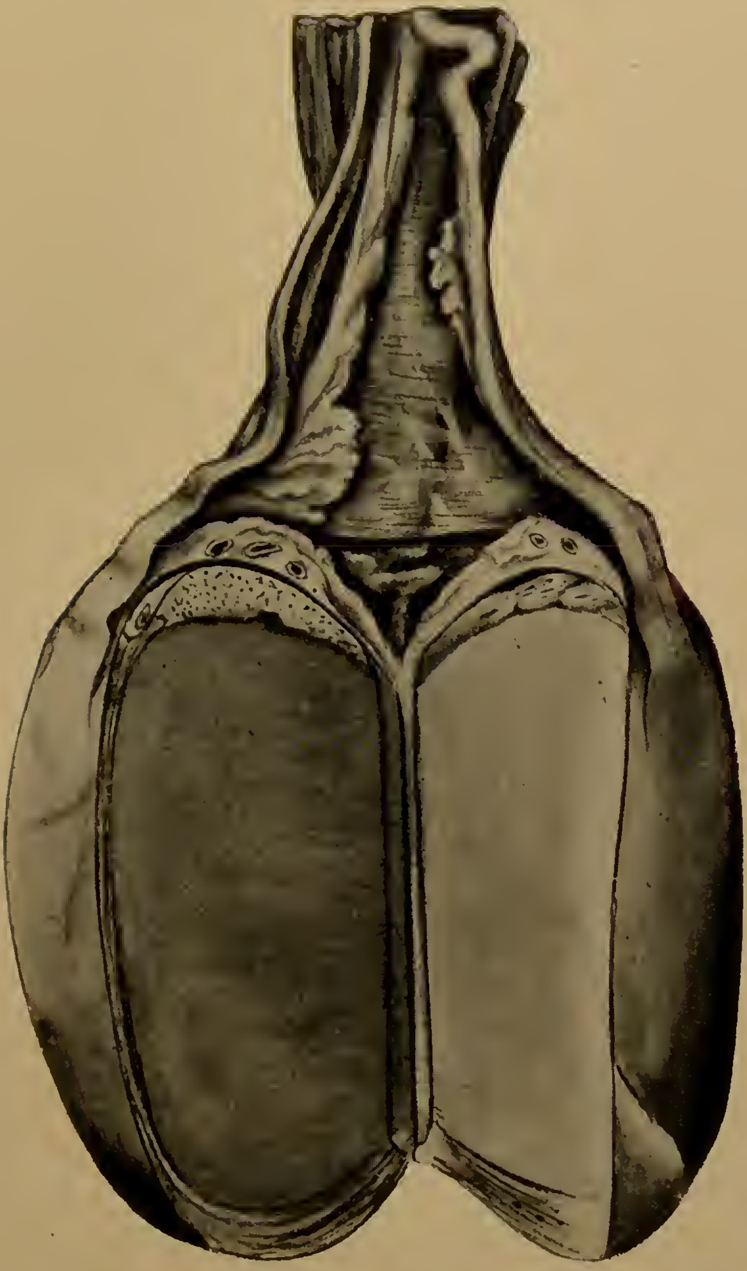
PLATE XIX



Symmetrical syphilitic synovitis in a boy who also suffered from interstitial keratitis. The disease has continued for some length of time and is associated with much wasting of the muscles. [See page 61.]

From a drawing kindly lent by D. G. Melville Dunlop.

PLATE XX



A testicle from a man aged 32; removed from a patient who had contracted syphilis seven years previously. The body of the testicle is greatly enlarged, but the epididymis has escaped and the spermatic cord is natural. [See page 148.]

Plate XXI.

A gummatous ulcer of long standing, situated on the radial side of the carpus. The bones of the wrist are exposed in the base of the ulcer ; the edges are serpiginous, and there is evidence of localised gummatous deposits in the neighbouring skin. [See page 21.]

(*From a drawing in the St. Bartholomew's Hospital Museum.*)

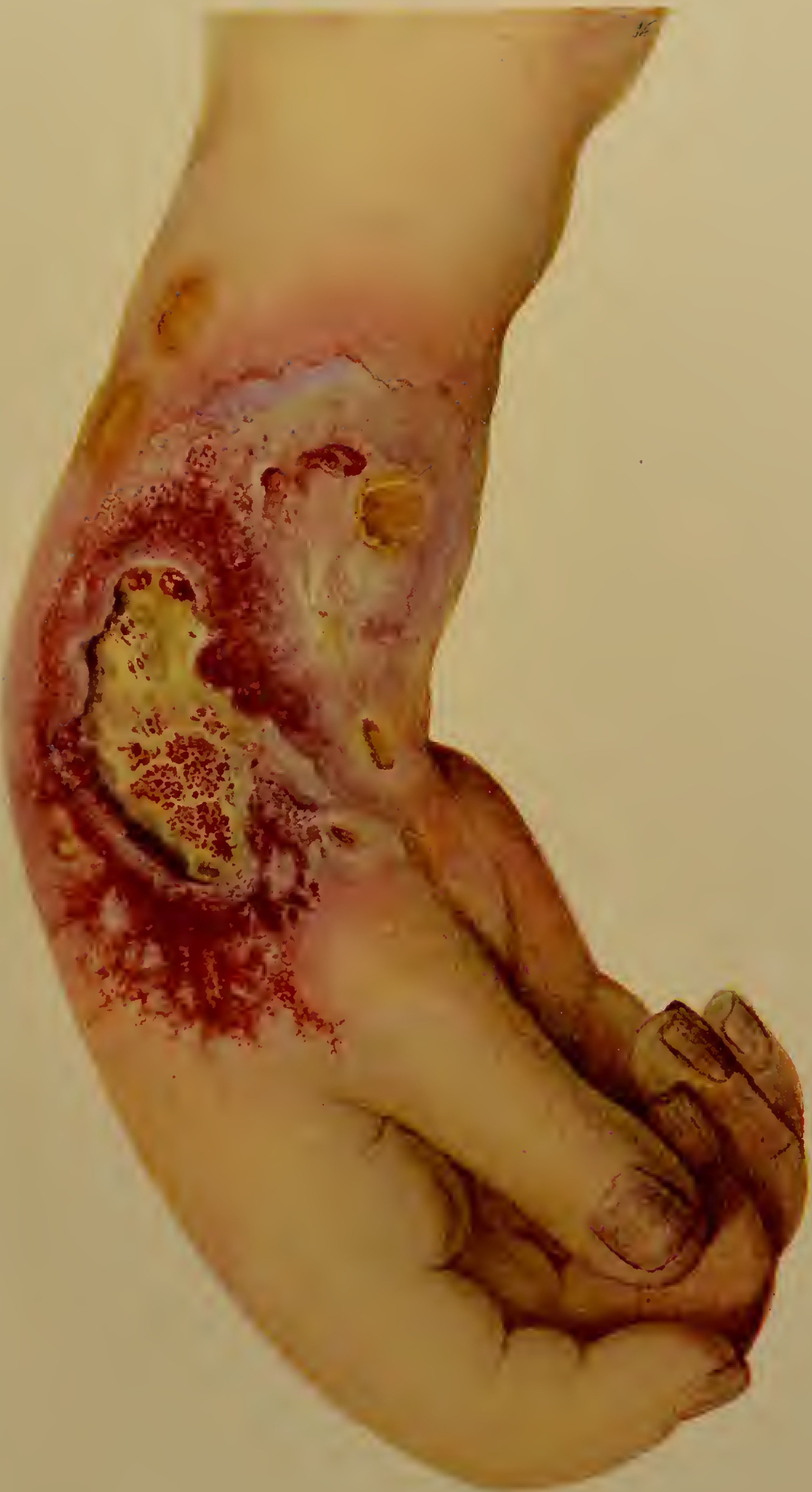
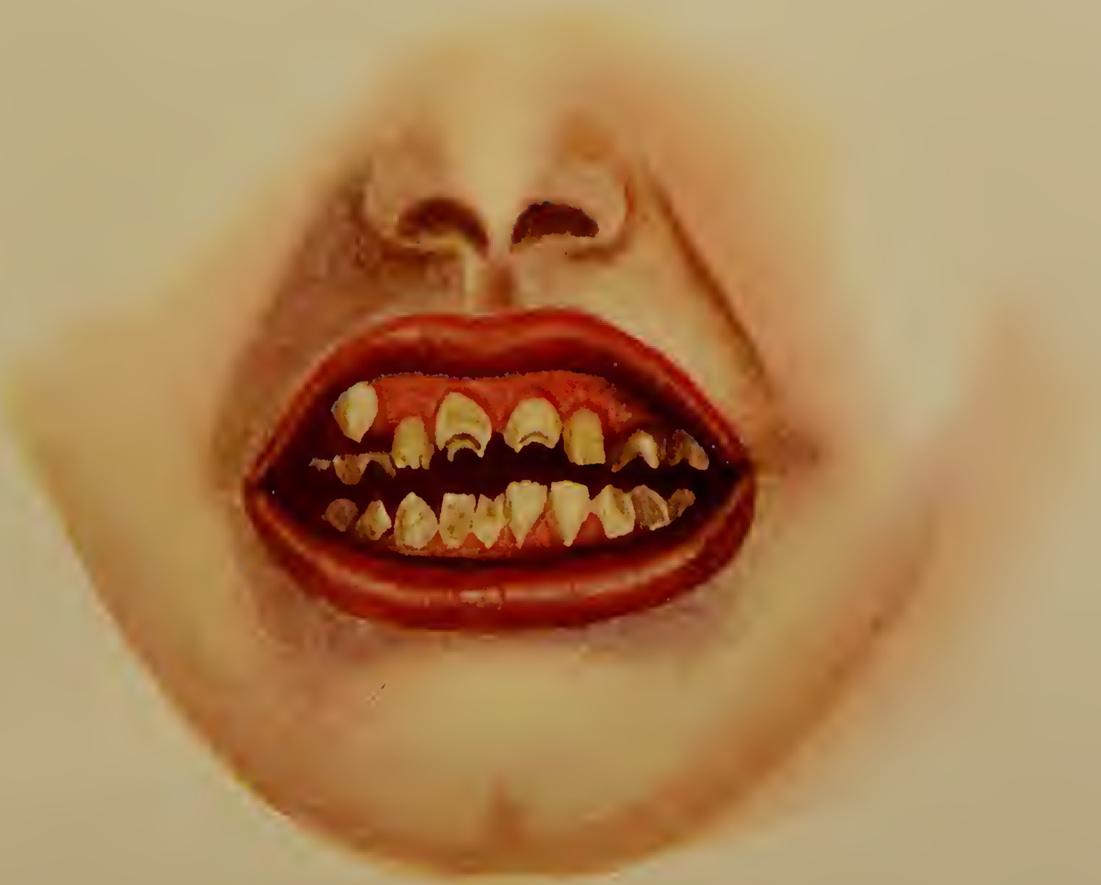


Plate XXII.

Fig. 1. Drawing of the teeth of a boy, aged 11 years, who had inherited syphilis. The notching and unequal size of the incisor teeth are very well shown. The boy was admitted into St. Bartholomew's Hospital for a chronic syphilitic osteitis of the tibia. At the time of his admission he was suffering from choroiditis in both eyes. His condition improved markedly when grey powder was administered. [See page 80.]

Fig. 2. The teeth in the lower jaw of a girl, aged 11, showing dental erosion of the incisors, canines, and first molars. The premolars are not affected. These changes are not necessarily or even usually due to syphilis. [See page 82.]



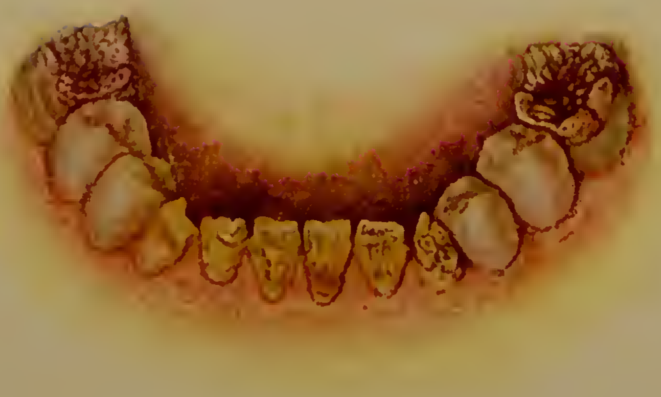


PLATE XXIII.

The tongue of a boy, aged 7 years, who showed other signs of inherited syphilis. The tongue is fissured over a large area of the dorsum, whilst the remainder of the mucous membrane is devoid of papillae. It also presents silvery patches and other evidence of leukoplakia. [See pages 109 and 176.]

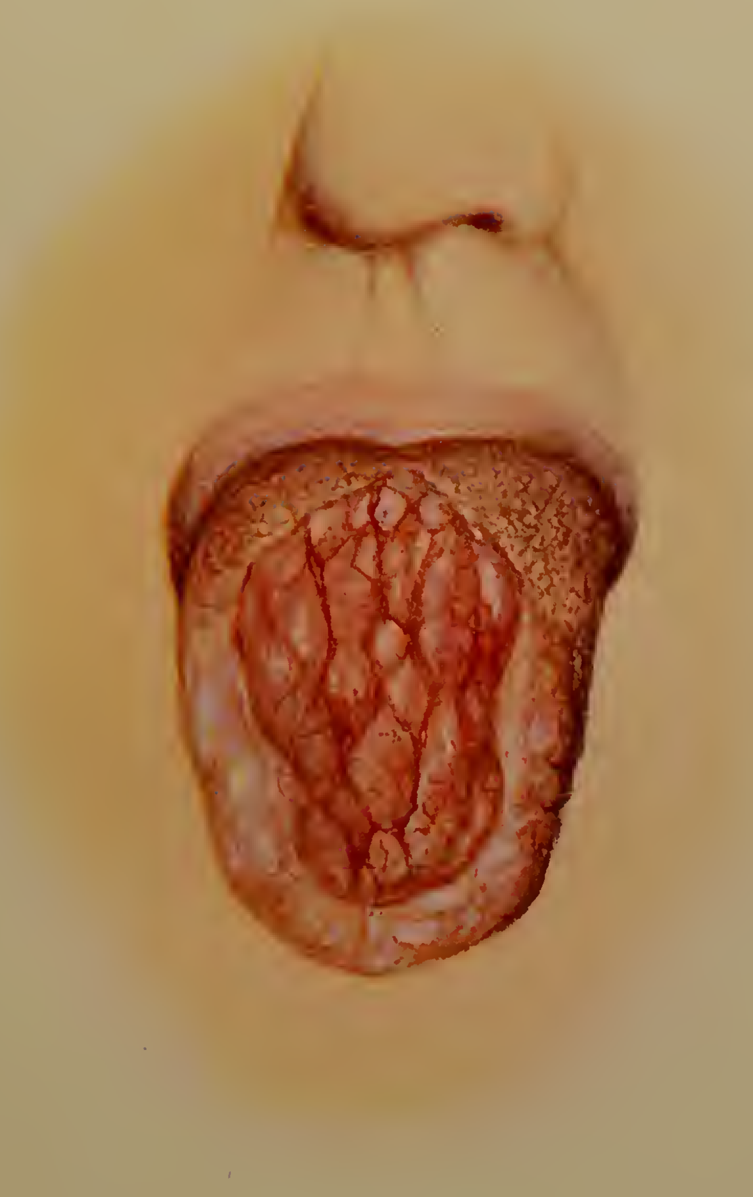


PLATE XXIV.

A deep gummatous ulcer on the dorsum of the tongue. The patient was a woman, aged 23, who had suffered from a sore throat and a rash on her body seven months previously. The ulcer healed rapidly when iodide of potassium was administered. [See page 110.]

(*From a drawing in the St. Bartholomew's Hospital Museum.*)

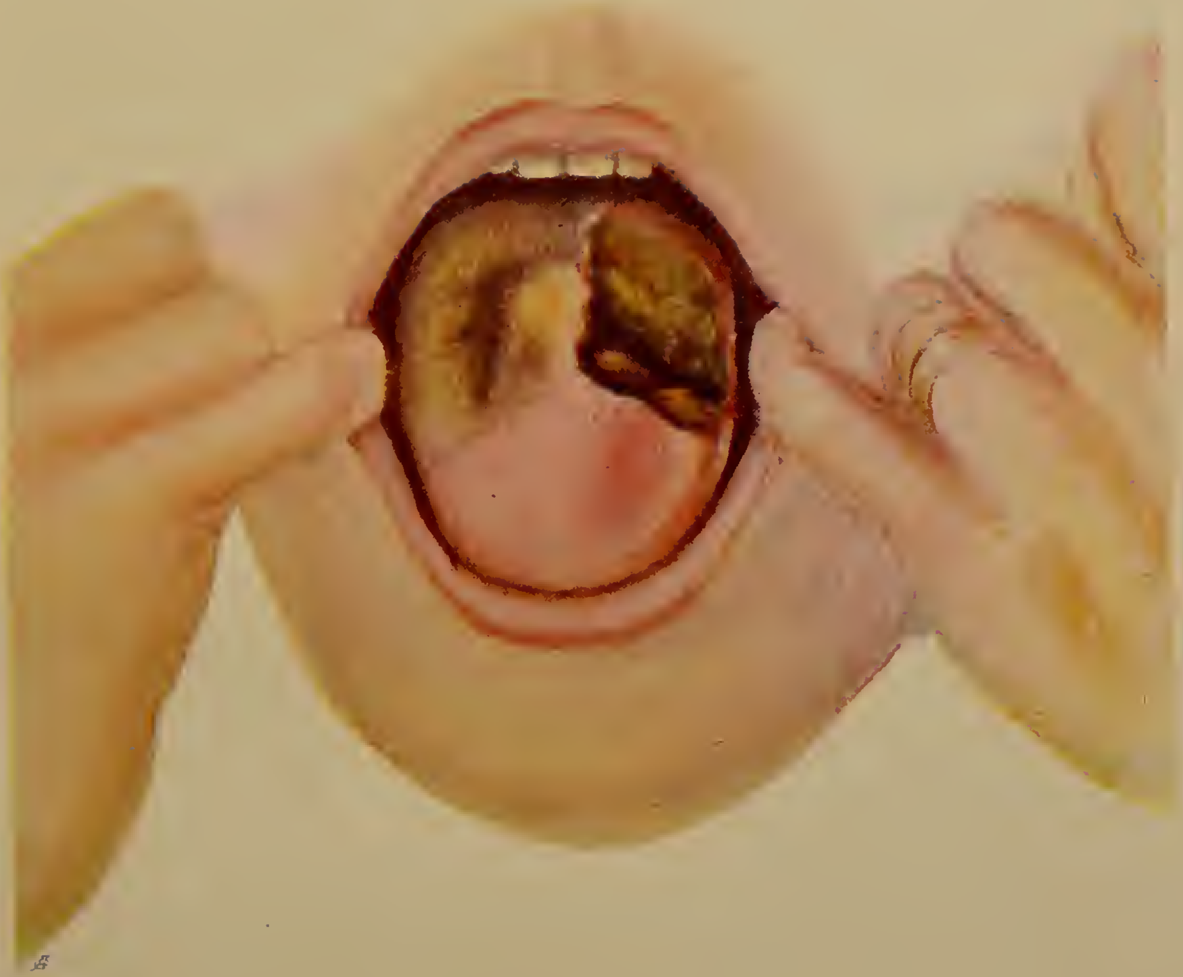


Plate XXV.

Drawing of a gummatous infiltration of the testis. The body of the organ is chiefly affected, but the epididymis and the tunica vaginalis are both inflamed. [See page 150.]

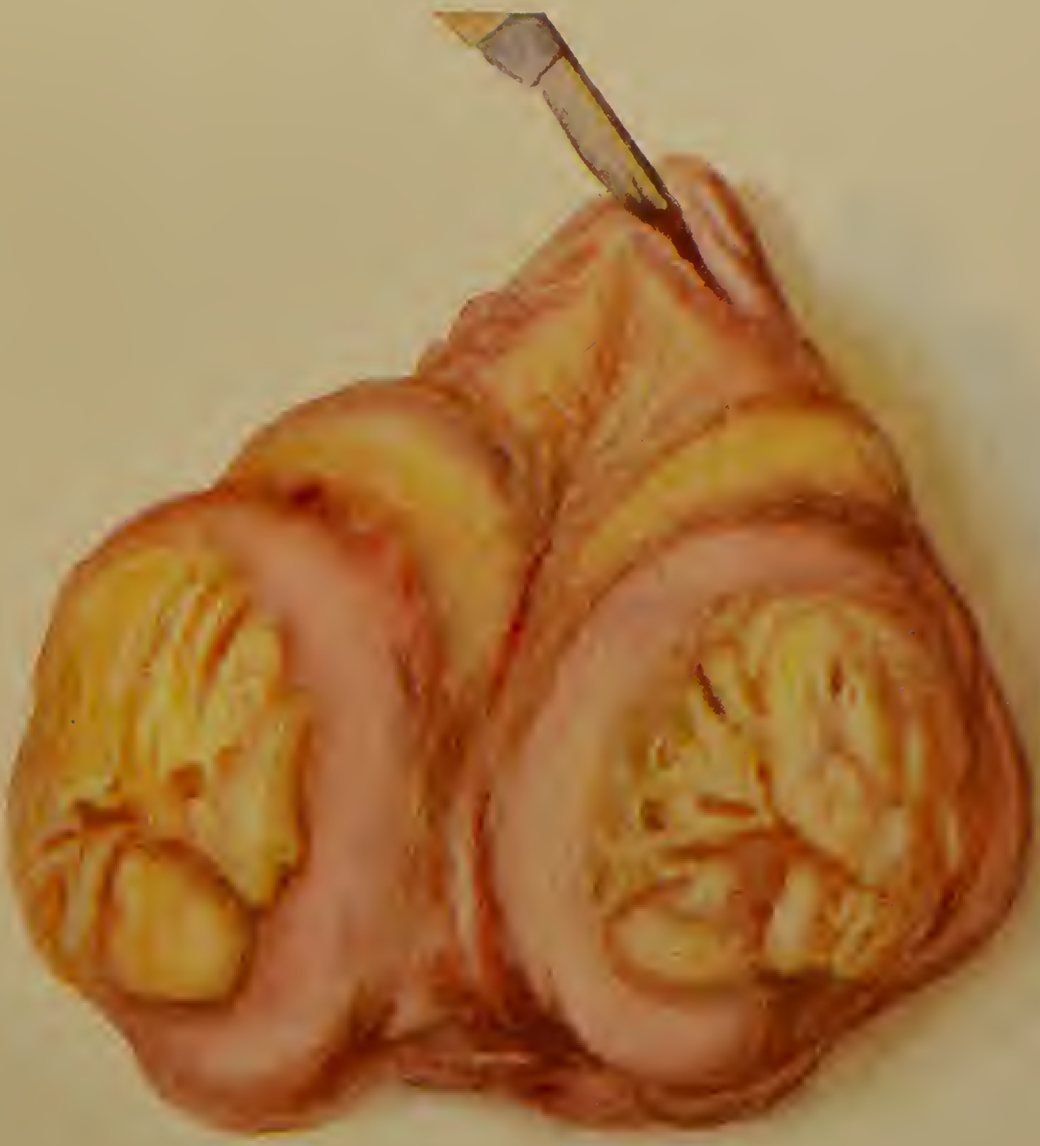


Plate XXVI.

The right humerus from a case of chondro-arthritis. The articular surfaces at each end of the bone show characteristic ulceration of the cartilage, whilst there is extensive gummatous osteomyelitis of the shaft of the bone. [See page 66.]

(*From a specimen preserved in the Museum of St. Bartholomew's Hospital.*)

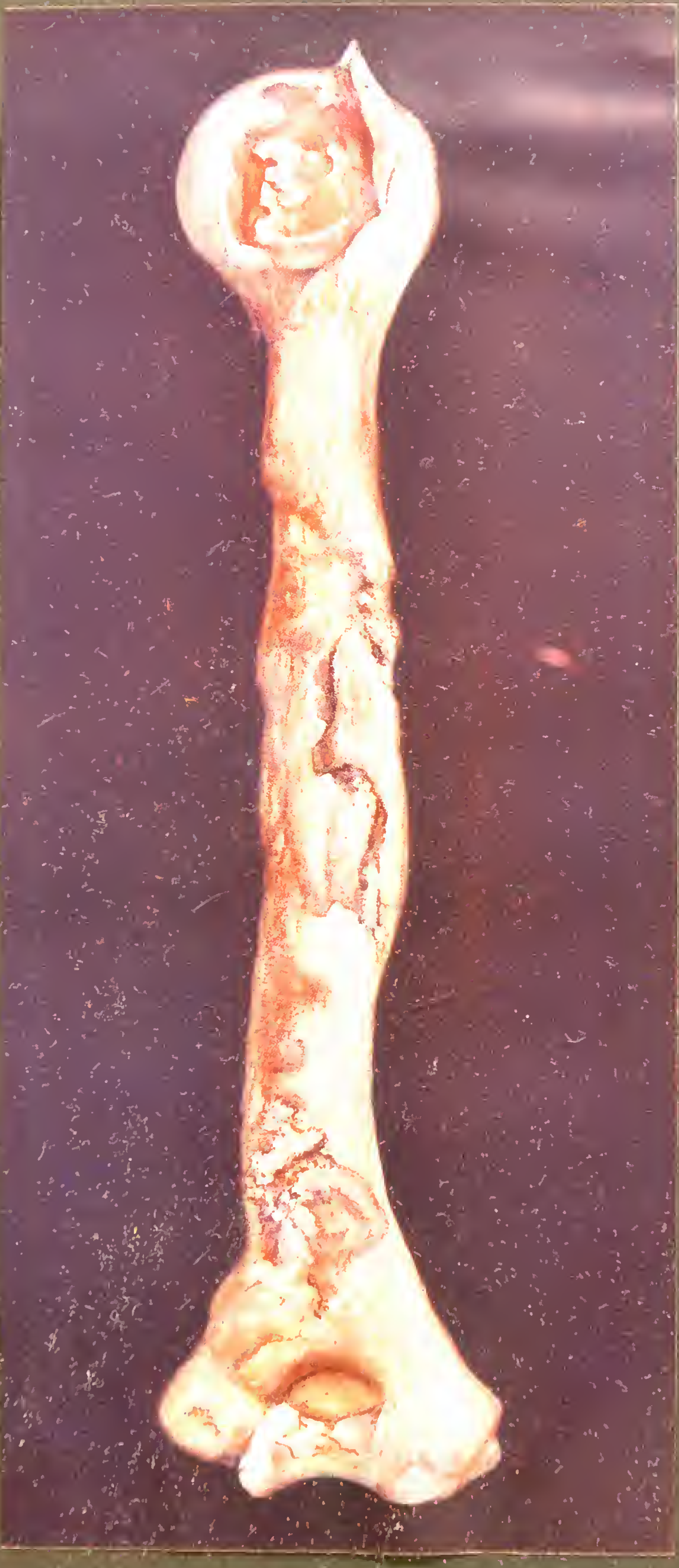


Plate XXVII.

The right knee-joint affected with chondro-arthritis. The articular cartilages of the femur and tibia are extensively destroyed, whilst that covering the patella is fibrillated. The synovial fringes are greatly hypertrophied. [See page 67.]

(*From a specimen preserved in the St. Bartholomew's Hospital Museum.*)

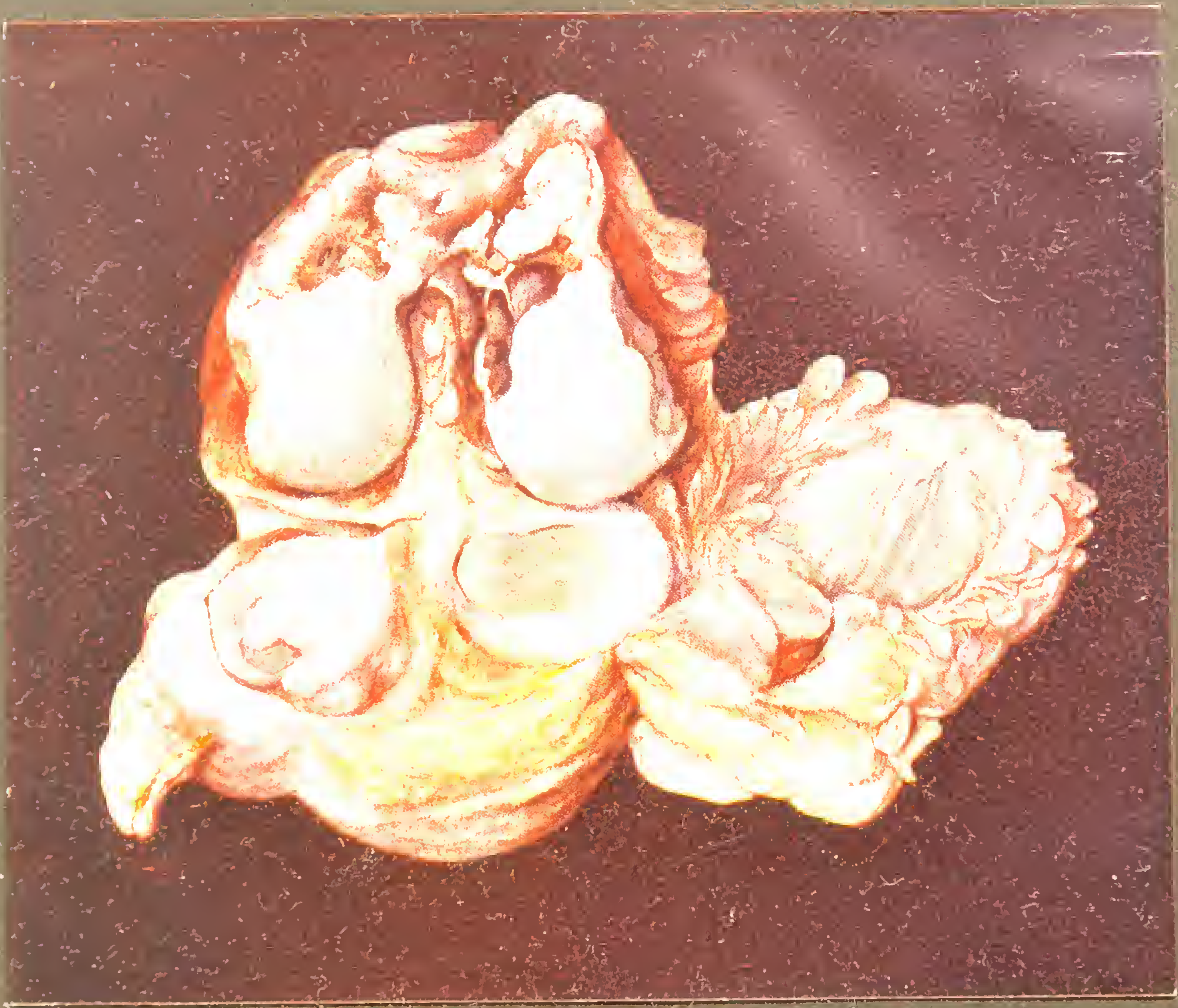


Plate XXVIII.

The exterior surface of the left arm of a woman, showing rupial ulceration. The crusts have dropped off, leaving irregular ulcers with a granulating base and raised white edges. The patient was admitted into Guy's Hospital, under the care of Mr. Bryant, in 1862. She had a gummatous ulcer on her, and the rupia on the arm appeared three months later. The ulceration was much more severe on the face than on the arms. [See page 76.]

(*From a wax model in the Pathological Museum of Guy's Hospital.*)

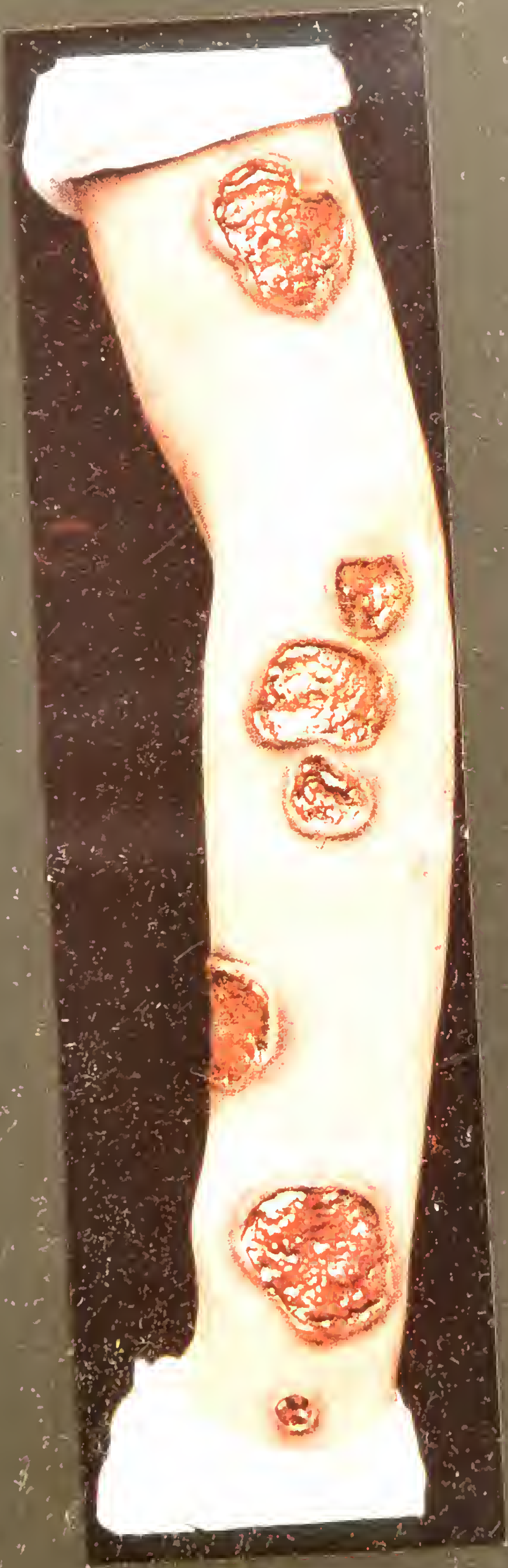


PLATE XXIX.

The shoulders and back of a man, showing an incrusted (rupial) and serpiginous syphiloderma. The crusts and ulcers are very numerous, the most recently formed being at the lowest part, where they occur in the form of roundish crusts somewhat conical in shape and measuring about seven-eighths of an inch across or less. Higher up the back the crusts have attained an enormous size, some of them being three or four inches in diameter. A few have evidently been formed by centrifugal extension from a single spot, but in the case of the majority this method of formation is very doubtful, for they present the appearance of huge rings or segments of circles enclosing areas of healthy skin. The crusts are mostly of a dark brown colour and some of them are exceedingly massive. Ulceration is going on beneath most of the patches, and there are some rather deep ulcers which are suppurating profusely. In the middle of the back is a raw-looking and oval patch nearly as large as the palm of the hand. A crust seems to have been just detached from it, so that the rete mucosum is exposed. [See page 76.]

(*From a wax model in the Pathological Museum of Guy's Hospital.*)

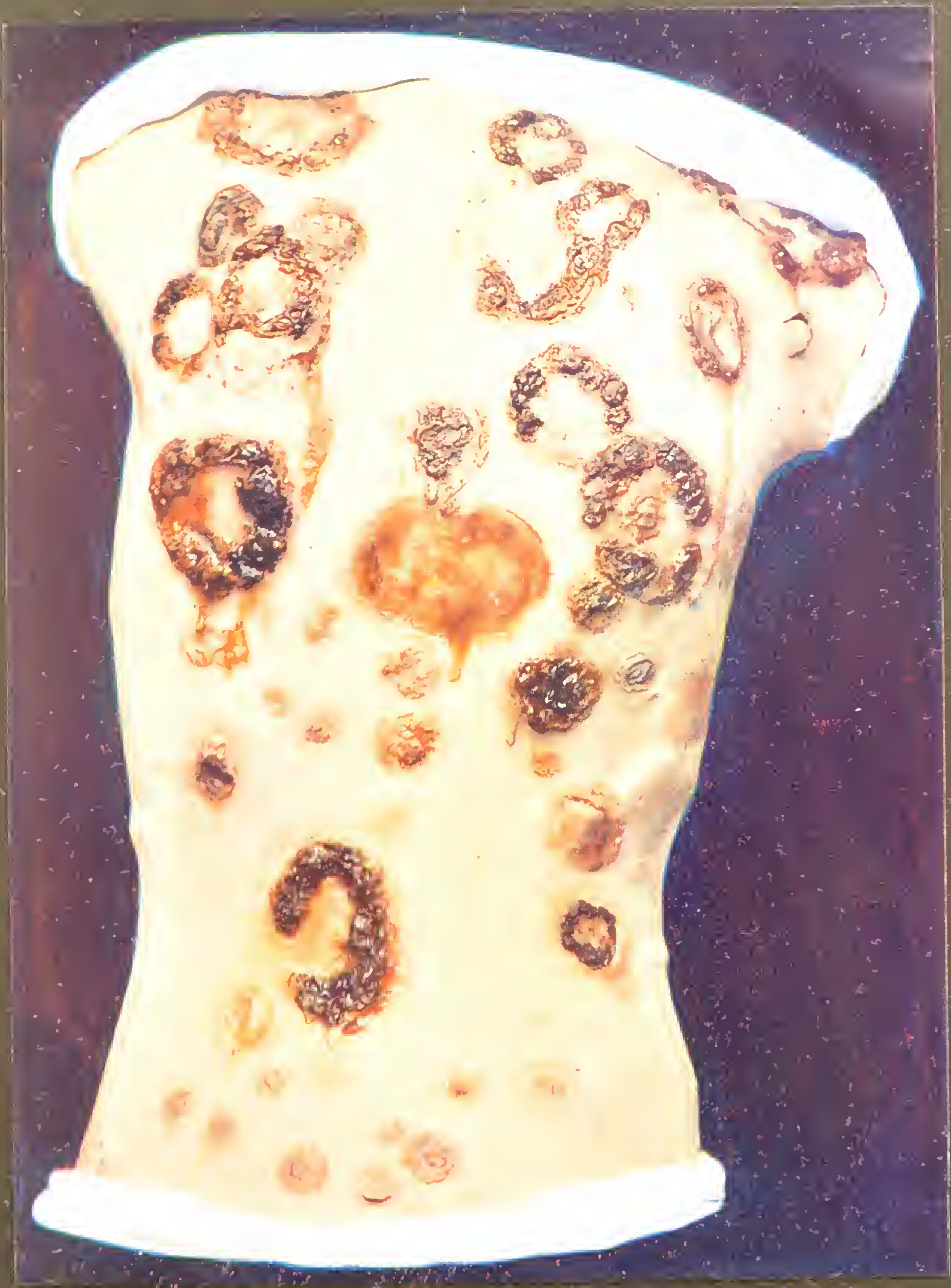


Plate XXX.

A corroding ulcer of the upper lip, which was at first supposed to be cancerous, but afterwards syphilitic. It healed under treatment. The case was admitted into Guy's Hospital under the care of Mr. John Birkett in the year 1865. [See page 95.]

(*From a wax model in the Pathological Museum of Guy's Hospital.*)

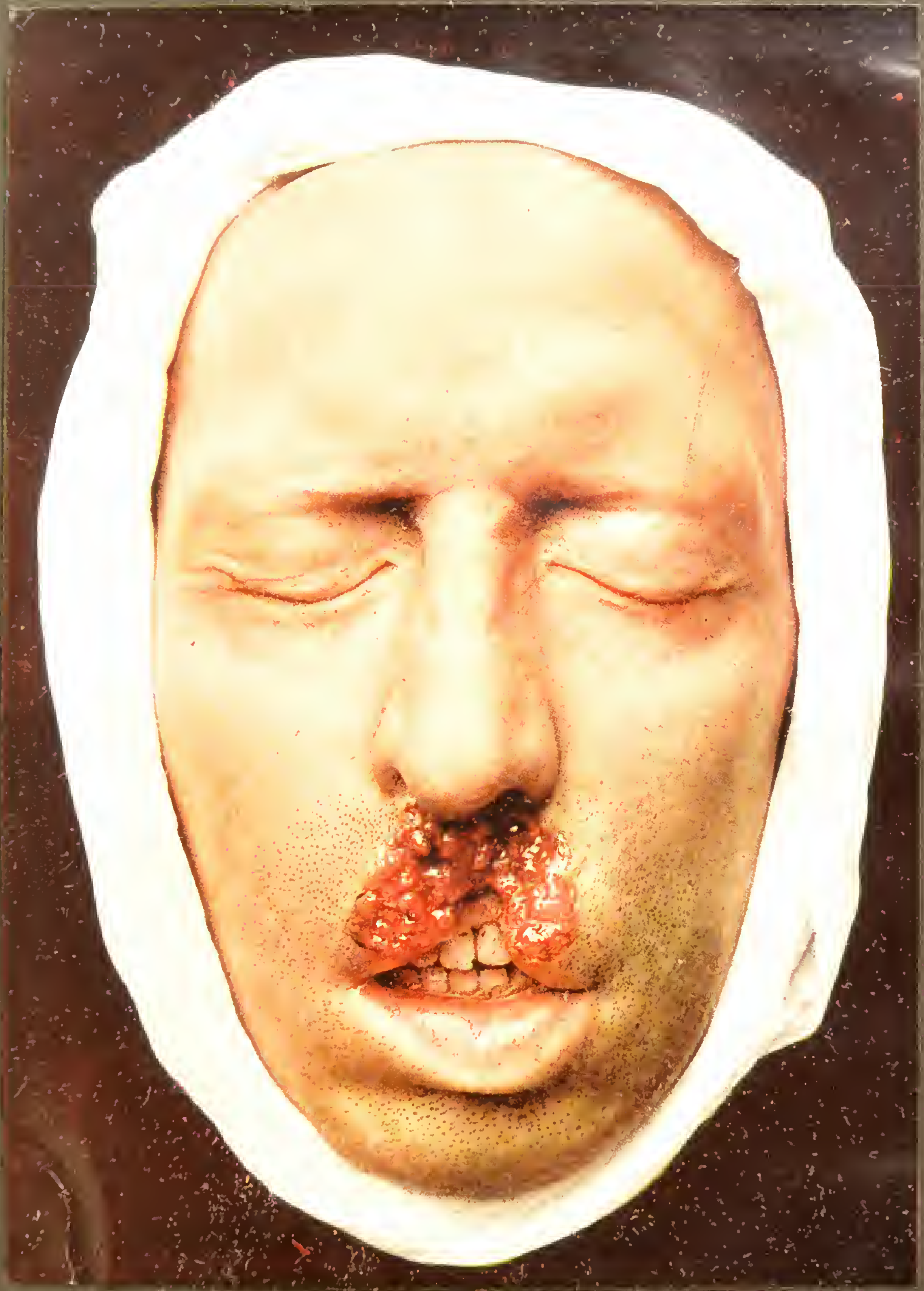


Plate XXXI.

Sloughing phagedaena. The face of a woman, aged 25, showing extensive ulceration of the lips and nose. The patient was under the care of Mr. Bransby Cooper. [See page 95.]

(*From a wax model in the Pathological Museum of Guy's Hospital.*)

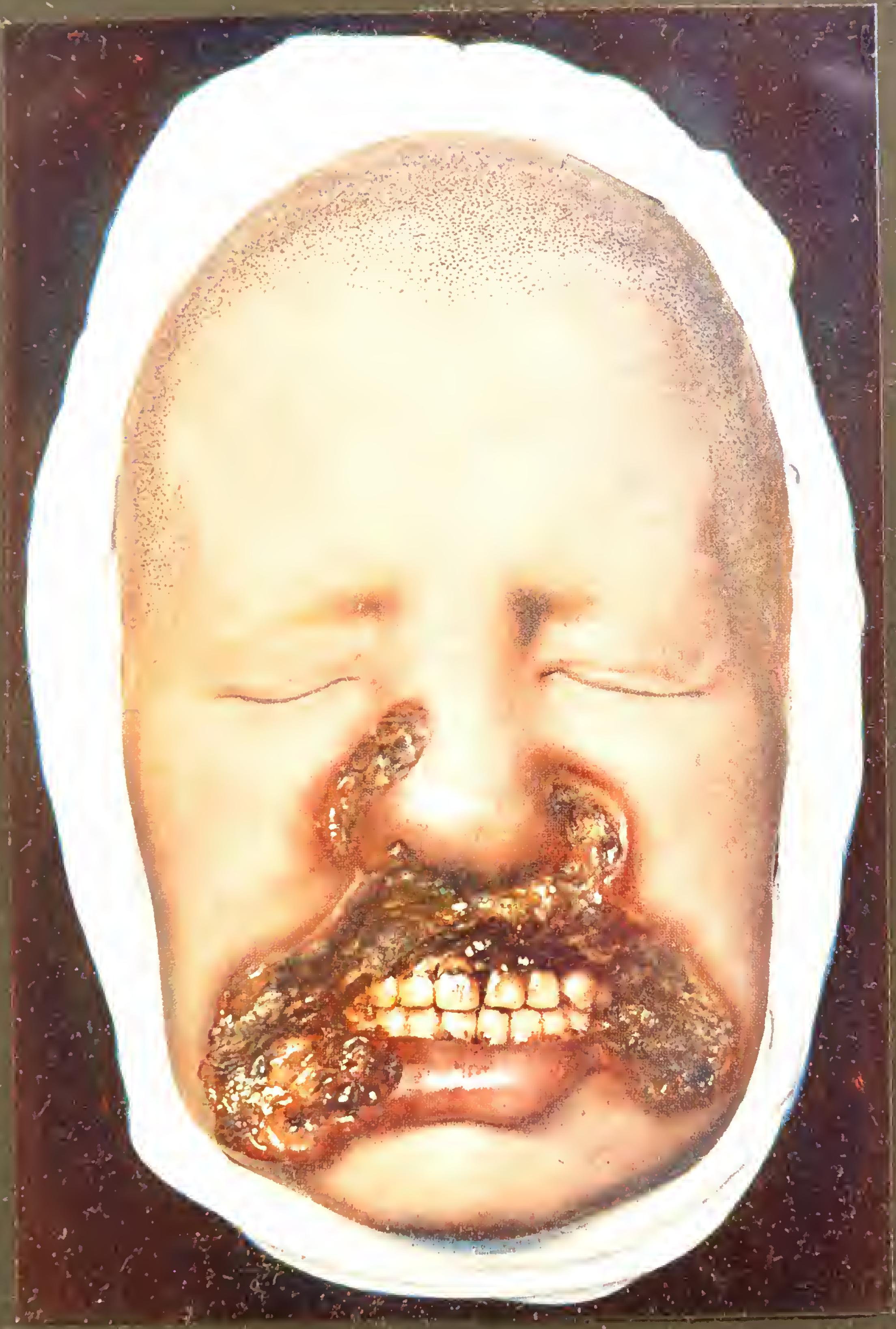


Plate XXXII.

The rectum and adjacent part of the colon, showing syphilitic ulceration of the mucous membrane, from a woman, aged 28, who had suffered from syphilis for seven years. [See page 125.]

(*From a specimen, No. 2058, in the Museum of St. Bartholomew's Hospital.*)

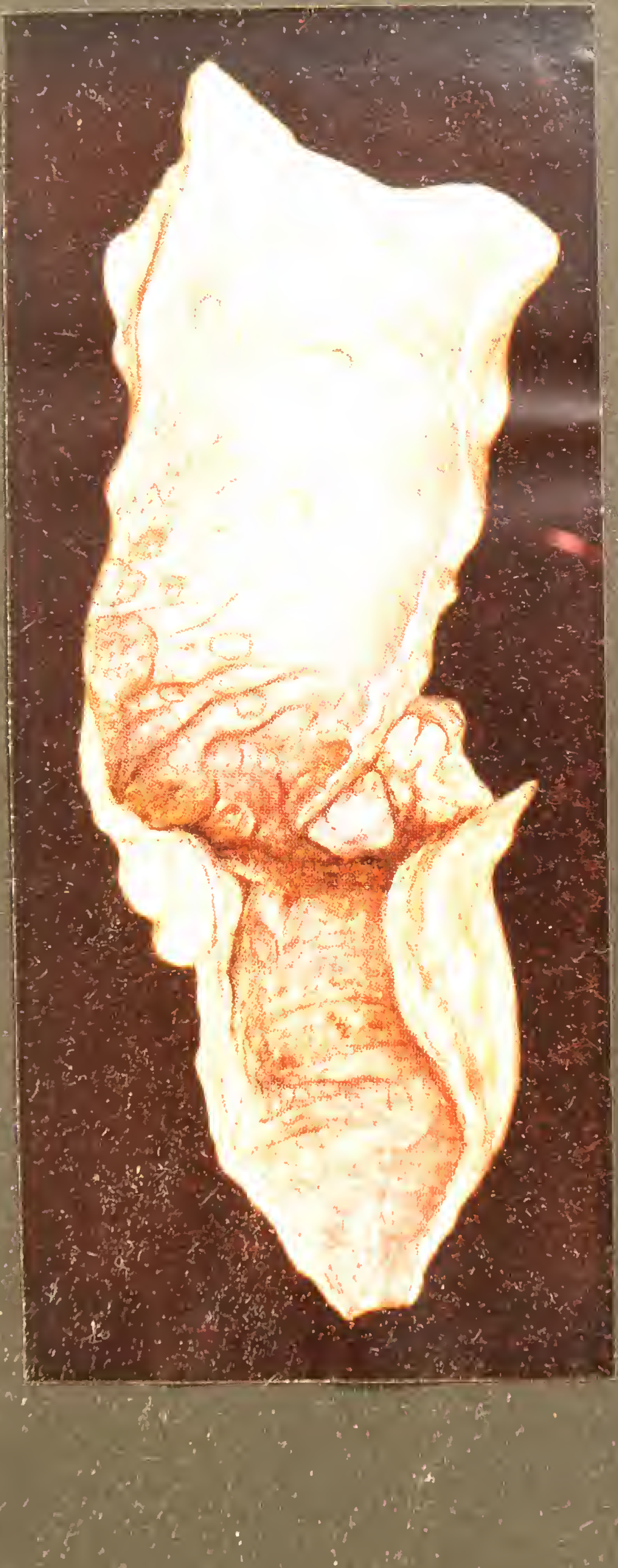


Plate XXXIII.

The rectum of a woman, aged 24, showing chronic ulceration. There are numerous polypoid masses growing from the mucous membrane which have coalesced in some places to form loops strong enough to support the glass rods. There is evidence of a stricture just below the level of the second rod. The bowel is suspended so that the anus is at the top of the plate. [See page 132.]

(*From a three-colour photograph.*)

PLATE XXXIV.

One half of a testis with the tunica vaginalis, which has been partially injected with carmine. The tunica vaginalis is distended by a large hydrocele. The tunica albuginea is greatly thickened, and the testis is slightly enlarged; its body is occupied by irregular white masses, which entirely replace the normal tissues. The injection has not penetrated into the gummatous masses, which are left white and unstained.

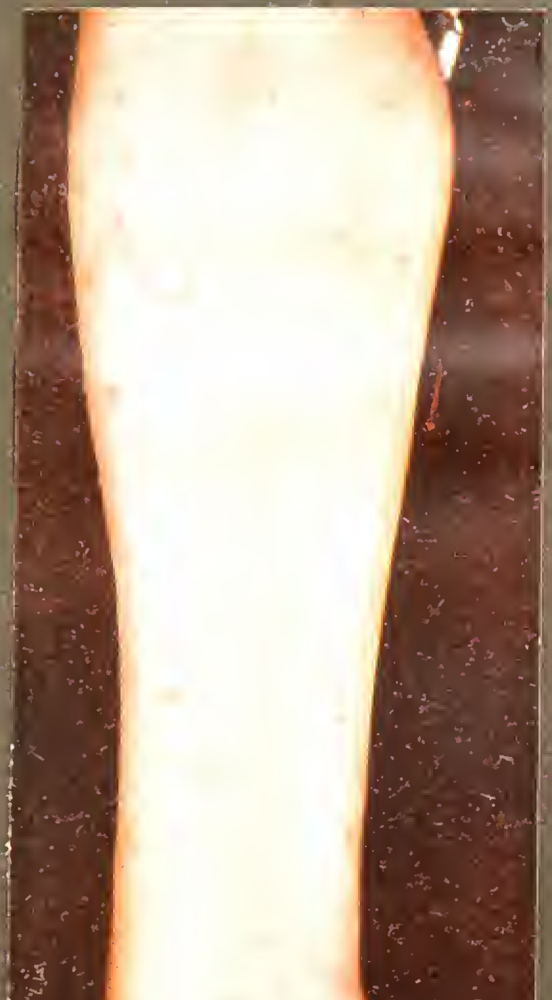
The testicle was removed by Sir George Murray Humphry, F.R.S., from a man aged 54, who was a patient at Addenbrooke's Hospital, Cambridge. He had contracted syphilis many years before, and at the time of the operation he was suffering from periosteal pains in various parts. [See page 150.]

(*From a specimen, No. 2771* A, *in the Pathological Museum at St. Bartholomew's Hospital.*)

Plate XXXV.

Primary sore on the thumb, with a macular and papular syphiloderma of the forearm. The patient was a nurse under the care of Mr. John Birkett in 1868. [See page 175.]

(*From a wax model in the Pathological Museum of Guy's Hospital.*)



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OXFORD : HORACE HART
PRINTER TO THE UNIVERSITY